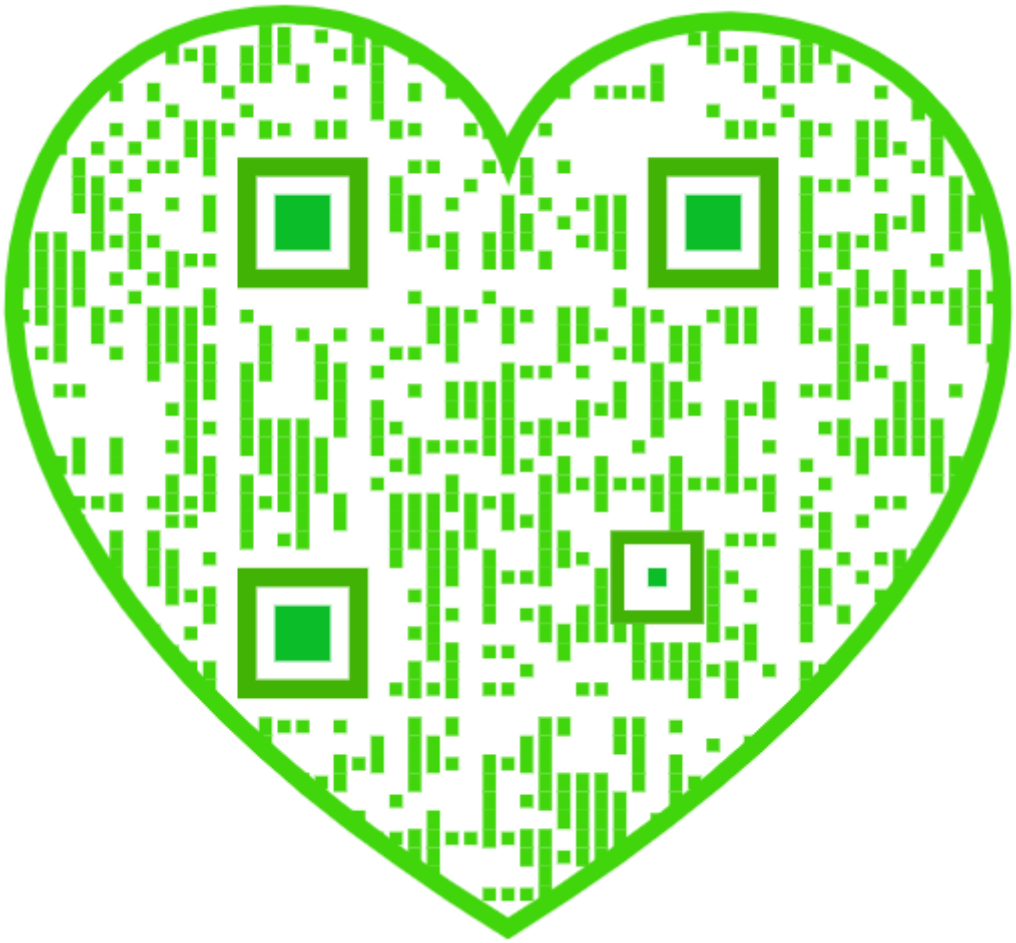
SEWING AND TEXTILES

MARY L. MATTHEWS



Class TT710
Book .M27
Copyright No.

COPYRIGHT DEPOSIT.

SEWING AND TEXTILES

SEWING AND TEXTILES

FIRST LESSONS
FOR ELEMENTARY SCHOOLS

BY

MARY LOCKWOOD MATTHEWS, B.S.

PROFESSOR OF HOME ECONOMICS AND HEAD OF THE
DEPARTMENT OF HOME ECONOMICS IN
PURDUE UNIVERSITY

BOSTON
LITTLE, BROWN, AND COMPANY
1921

TT710
.M27

Copyright, 1921,
By Little, Brown, and Company.

All rights reserved

Norwood Press
Set up and electrotyped by J. S. Cushing Co.
Norwood, Mass., U.S.A.

MAR 25 1921

©Cl.A611311

PREFACE

This volume is intended for use in places beginning the study of sewing and textiles. It has been arranged for use in the elementary schools and does not presuppose any training in general science. It is strictly an elementary treatment of the subject.

The book deals with the selection of clothing and garment-making. Garments are made, the commercial patterns being used. The lessons in textiles are correlated with the lessons in garment-making by studying, in the class, the materials that are being used in the laboratory. The hygiene of clothing, and the clothing budget, are discussed when the dress is the laboratory problem. Through the Home Problems, the home and school work may be correlated.

Attention is called to the insertion of material for the use of the modern "project method." Many teachers will find that this makes the plan of the book more attractive and practicable. It need not disturb the work of the teacher who prefers the longer established ways of teaching.

The author acknowledges the help given in illustrating the book by the United States Department of Agriculture, The United States Bureau of Standards, Cheney Brothers, The Linen Thread Company, and Landers, Frary and Clark. The author also gratefully acknowledges the criticisms and suggestions of educators who kindly read the manuscript.

TO THE STUDENT

HAVE you thought about what you will do when you finish school?

Perhaps you have decided to be a teacher, a librarian, a stenographer, a doctor, a nurse. Perhaps you are making plans to take a course in high school or college that will fit you for one of these callings; you would not consider yourself capable of entering any of them without training.

Very probably you will be at some time the manager of a home. Have you thought about the importance of being trained for home-making?

It is only within the past twenty-five years that it has been considered proper for the public schools to train girls for the work which most of them will do for the longest period in their lives, the work of home-making.

Mrs. Ellen H. Richards was the first to say that the schools ought to teach "right living;" and, largely through her efforts and her inspiration, plans have been worked out whereby girls while in school can be taught many things about right living.

Right living begins with the home. Who makes the home? The man may furnish the money to build and maintain the house, but it is the woman who plans and manages the home. It is her business to see that the family lives in a sanitary and an attractive house; that every member of the family

has clean, properly selected and well cooked food; that every one is suitably clothed; that the family income is wisely spent, and that all in the home are helped to lead a happy and useful life.

No girl should consider the making and managing of a home an easy piece of work, for in fact nothing is harder to do and to do well.

When the girl takes work in school and college that covers all phases of home-making, we say that she is taking a course in Home Economics.

SUGGESTIONS

When planning a course in Home Economics for any school it is essential that the teacher should know from what kind of homes the students come, what is the average income of the families of these girls, what nationalities they represent, what is the social life of the neighborhood. It is impracticable to follow any textbook, page by page, without first knowing whether the lesson-plans suit the students to whom they are presented. When the teacher knows the neighborhood, she can wisely select and arrange the parts of the book to be assigned.

The lessons in Sewing and Textiles are planned with the garment as the project, with many problems to be studied which lead to its completion. It is advisable always to have a plain practical garment as the project, rather than an elaborate one involving a great deal of hand-work. Any school teaching sewing in the seventh and eighth grades should have its laboratories equipped with sewing-machines.

The book is divided into sections instead of lessons, thus giving the teacher the opportunity to use as much or as little as is desired at any one time, since the amount of time allowed for Home Economics varies greatly in different schools.

The "Home Problems and Questions" may furnish material for lessons if plenty of time is allotted to this course, or may be used only as work to be done outside of class hours.

Illustrations and exhibit material that can be secured will help to make the work more interesting. The following firms furnish "school exhibits" that will be found useful: J. Wiss & Sons Company, 15–33 Littleton Ave., Newark, N. J., scissors; W. H. Compton Shear Company, 307–309 Bergen St., Newark, N. J., scissors; S. B. & B. W. Fleisher, 25th & Reed Sts., Philadelphia, Pa., "Wool Processes" ($1.00); Cheney Brothers, Fourth Ave. & 18th St., New York City, silk exhibit and booklets, "The Story of Silk" and "Glossary of Silk Terms"; Pacific Mills, Lawrence, Mass., cotton exhibit and wool exhibit; Belding Brothers & Company, Belding, Mich., booklet, "Silk Culture and Manufacture, Shown Progressively" (50 cents plus postage), and silk exhibit ($2.50 plus postage); Corticelli Silk Mills, Florence, Mass., book, "Silk, Its Origin, Culture and Manufacture" (50 cents), wall card, "How Silk is Made" (20 cents), box containing silk cocoons (5 cents), silk-culture cabinet ($1.25).

In addition to the reference-books that should be found in the school library there are bulletins which are very valuable as reference material. Write to the following addresses and ask that publications be sent to you and that your name be put on their permanent mailing-list: Division of Home Economics, Bureau of Education, Washington, D. C.; Children's Bureau, Department of Labor, Washington, D. C.; Department of Agriculture, Washington, D. C.; United States Public Health Service, Treasury Department, Washington, D. C.; Federal Board for Vocational Education, Washington, D. C.; all State universities and agricultural colleges;

American Home Economics Association, 1211 Cathedral Street, Baltimore, Md., "The Journal of Home Economics" ($2 per year). In writing to the Department of Agriculture ask also for a list of Farmers' Bulletins and for publications issued by the Office of Home Economics.

CONTENTS

PAGE

PREFACE v

TO THE STUDENT vii

SUGGESTIONS ix

LIST OF ILLUSTRATIONS xv

PRELIMINARY LESSONS

The Sewing-basket 3

Implements for the Sewing-basket 6

PROJECT I — THE SEWING-APRON

Materials for the Sewing-apron 10

Stitches to Use in Making the Apron . . . 12

A Piece of Cloth 15

Ginghams 18

Cotton 22

How Cotton Cloth is Made 28

PROJECT II — THE NIGHTGOWN

Cotton Materials Commonly Used for Underwear . 32

The Sewing-machine 36

Other Cotton Materials 40

Facts about Lace 43, 46

Dyeing 49

How Cotton Materials are Adulterated . . . 52

Ribbons to Use in Underwear 55

How Silk Materials are Made 59, 62

PROJECT III — THE GIFT TOWEL

Towels 67

How Flax is Grown 70

The Making of Linen Cloth 72

Some Linen Fabrics 75

PROJECT IV — THE UNDERSLIP

PAGE

Wool: Where it Comes From 80
How Cloth is Made from Wool 83
Wool Materials Commonly Used 87
Embroidery to Use on Underwear 90
Knitted Underwear and Stockings 96
The Cost of Clothing 101
The Care of Clothing 106
Removing Stains 110
Healthful Clothing 114

PROJECT V — THE WASH DRESS

Selecting a Wash Dress 120
The Becoming Dress 126
Appropriate Clothing 129
Some Points for the Consumer 132
Some Textile Tests 139

PROJECT VI — CHRISTMAS GIFTS 144

INDEX 149

LIST OF ILLUSTRATIONS

Measuring to Find the Amount of Material Needed for the Nightgown . . . . . *Frontispiece*

PAGE

Good Types of Shears and Scissors 4
Pages from the Booklet on "The Sewing-basket" . . 7
Three Types of Basting 9
Method of Making Running-stitch 9
Method of Placing Needle in Hemming 12
Gathers Ready for Pulling into Place 13
Method of Overhanding 14
The Cover of the Textile Book 19
A Page in the Textile Book 20
Cotton Bolls 22
Position of the Needle in Feather-stitching . . . 24
Method of Sewing on Button 25
The Weaving-card 31
The Finished Sewing-apron 35
Steps in Making a Plain Seam 39
Machine-made French Seam 39
Lace Edgings of Good Design 44
Good Types of Beading 47
Ribbon Loom Weaving Silk for Neckties 56
Method of Folding Cloth when Cutting a True Bias . 58
Method of Joining Two Bias Strips 58
Finished Casing which Might be Used around the Neck of a Nightgown 59
Silkworm 60
Silk Cocoons 61
Silk Moth 62

PAGE

Weighing Raw Silk, Japan 63
The Finished Nightgown 66
Method of Hemstitching 69
Harvesting Flax by Hand 71
Retting Flax 73
Cross-stitching 78
Initial Done in Cross-stitch 79
Method of Making a French Hem 82
Construction of Woolen Yarns 84
Construction of Worsted Yarns 84
The Construction of a Felled Seam 86
Good Types of Embroideries 92
Back-stitching 94
Placket 94
The Finished Placket 95
Method of Joining Embroidery 99
The Right Side of the "Join" 100
Straightening the Bottom of the Underslip . . . 104
Method of Putting Ruffle on with a Tuck 105
Method of Making a Stocking Darn 109
Method of Basting Bias Strips around Armhole . . 117
The Finished Underslip 118
Four Steps in Making a Hemmed Patch 123
Four Steps in Making an Overhand Patch . . . 124
Method of Making Embroidered Scallops 134
A Page from the Clothing Book 135
Design in Blanket-stitch 137
Method of Making Blanket-stitch 137
Method of Making Chain-stitch 138
Cotton Fibers Magnified 140
Flax Fibers Magnified 140
Wool Fibers Magnified 141
Silk Fibers Magnified 142

SEWING AND TEXTILES

SEWING AND TEXTILES

THE SEWING-BASKET

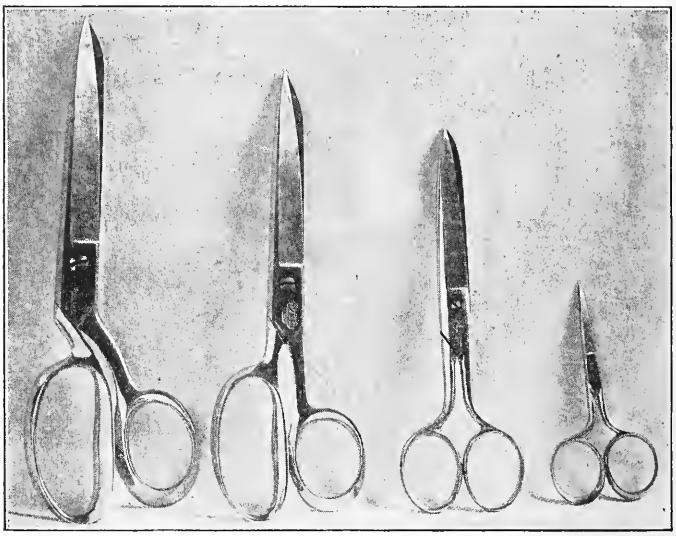
A SEWING-BASKET in which to place the implements used for sewing is needed by every seamstress if she is to do her sewing easily and well. A basket or box can be kept in better order than a bag, and sewing-materials when kept in a box or basket are less rumpled than when put in a bag.

The implements needed in the box are scissors or shears, tape-line, needles, emery bag, pin-cushion, pins, thread and thimble. In order to do good work the implements must be of the right kind and in good condition.

Scissors are six inches or less in length, while shears are over six inches in length. It is always best to buy shears when both cannot be purchased, because shears are always needed for cutting out garments.

Shears may be bent or straight in shape; the bent ones are easier to use because they do not raise the cloth far from the table in cutting. Select shears or scissors that are made of forged steel and that are not so tightly joined that they work hard. Scissors or shears must be sharp if they are to do

good work. Be careful about allowing them to drop on the floor, since this loosens them so that they will not cut a true edge and may bend or break the point. Never buy cheap scissors or shears because cheap ones will never do satisfactory work. *Buttonhole scissors* used for cutting buttonholes are very convenient to have in the work-box.



Good Types of Shears and Scissors

The other implement found in the work-box made from steel is the needle. *Needles* have been used for a longer period than any other implement used for sewing. Needles made of fish-bones, of ivory and of bronze were used in early times. Steel needles originated in Spain and were introduced into England during the reign of Queen Elizabeth.

Needles, while very small, require a great deal of care in manufacture, and pass through the hands of a great many workmen before they are finished. Ordinary sewing-needles are sold in packages with twenty-five needles in each package.

There are three kinds of needles used for plain sewing: (1) *sharps*, the longest needles; (2) *ground-downs*, the next in length; and (3) *betweens*, which are the shortest needles.

Needles are of twelve sizes, the sizes being numbered from 1 to 12, the No. 12 being the finest. A package of needles may contain needles of different sizes or may contain needles all of one size. Sizes 8, 9 and 10 will be used most in our class work, as these are the sizes used for most ordinary sewing.

If needles and thread are too coarse for the sewing that is being done, the stitches will never look well. Select the thread that is near the size of the thread in the cloth on which the sewing is to be done, and select a needle just large enough to carry the thread. Good sewing cannot be done with a bent or rusty needle. Needles, when not being used, should be placed in the pin-cushion or in a needle-book and not left in the sewing.

LABORATORY EXERCISES

DIRECTIONS FOR LABORATORY WORK

Personal appearance: The hands should be washed before beginning any sewing. With a wool dress or skirt some kind of sewing-apron should be worn, so that the work will not become soiled from rubbing over the dress.

Position: Sit erect with back against chair and with feet on the floor. Hold the work so that there is no need

for stooping over. Never pin work to your knee when sewing. Sitting with a table in front of you, when sewing, is the best plan.

Care of work: Needles should never be left in the material when one has finished sewing, because dampness may cause the needle to rust and this injures the material. Thread-ends on all spools should be slipped through the groove made for that purpose. The tape-line should be neatly folded, and all other equipment in the sewing-box placed in order. All materials used should be neatly folded before they are placed in the box, basket, or bag.

IMPLEMENTS FOR THE SEWING-BASKET

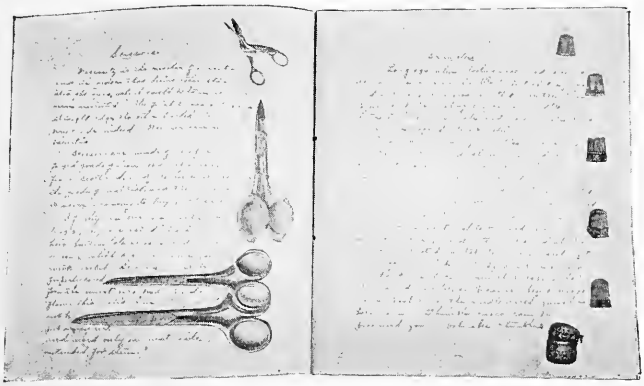
The *emery bag* is used for keeping the needle bright and free from rust.

The *tape-line* is always needed in doing accurate work. Select one made of cloth, double, and stitched on both edges, and finished with brass tips on the ends. It should be sixty inches in length and every inch should be divided into eighths.

Pins used in sewing should have a sharp point and should not be coarse. English pins are the best to buy because they are fine and sharp-pointed. Pins are made from brass wire and require a great deal of work in making. A "paper" contains 360 pins. Often pins to be used for sewing are sold by the box. Never use bent or rusty pins in sewing.

The best *pin-cushion* is stuffed with wool rather than cotton because needles and pins run through the wool much more easily than through the cotton. The pin-cushion may be used only for the pins and a needle-book used for the needles.

Thimbles are made from many materials, the most used materials being silver, gold, aluminum, celluloid and brass. Ivory and pearl thimbles are sometimes used. Thimbles may be plain, or decorated with etching or with jewels. Aluminum thimbles are very cheap but do not wear well. These are good to use in the class work because there is danger of losing a more expensive thimble. Silver thimbles



Pages from the Booklet on "The Sewing-Basket"

are generally used by most seamstresses. A thimble made of brass should never be selected.

The first thimble in England was made by John Lofting about 200 years ago. It was worn on the thumb and was called a "thumb bell." Our grandmothers used thimbles that were open on top and the needle was pushed through the cloth with the side of the thimble.

In selecting a thimble, buy one that is large enough to allow the end of the finger to strike the end of the thimble. The size is told by a number placed on the thimble.

Sewing-thread is made from cotton, linen and silk. Fine, smooth, even thread was not made until the sewing-machine was invented. A great deal of thread is now made in Scotland, but there are large factories in America. Cotton and linen threads are made in different sizes and are sold by number, the higher the number the finer the thread. The numbers do not run consecutively. Silk thread is numbered by letters, A, B, C and D being the usual sizes. Besides the ordinary sewing-threads there are many kinds made for special purposes, such as buttonhole twist and darning cotton.

When removing thread from the spool, measure a strand the length of the arm, cut it from the spool, and fasten the cut end on the spool through the little groove made for this purpose on the edge of the spool.

LABORATORY EXERCISES

LEARNING TO USE EQUIPMENT

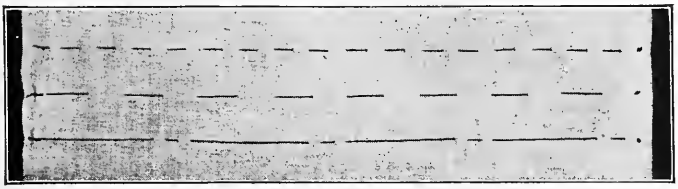
Scissors: Learn to hold scissors correctly. Practice cutting a straight edge. If bent shears are used, lay a piece of paper on the table and cut across it with the shears. How should they be held to keep the paper as nearly as possible flat on the table? When would it be convenient to use bent shears?

Tape-line: Make the following measurements with the tape-line, and indicate length on piece of paper: $\frac{5}{8}$ inch; $\frac{3}{4}$ in.; $1\frac{1}{4}$ in.; $\frac{1}{2}$ in.; $\frac{7}{8}$ in.; 1 in.

Thread: Measure length of thread to be used in needle; cut from spool with scissors, never bite nor break the thread. Fasten thread-end on spool. Thread needle. Practice making knot in end of thread; a knot should not be too large and should never have a "tail."

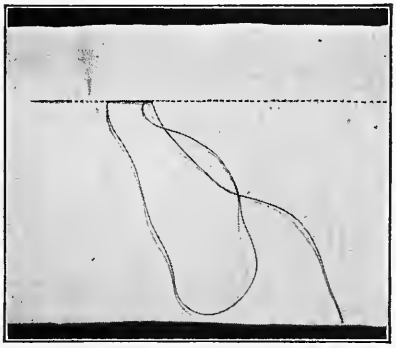
Thimble: Try on the thimble. Of what material is it made? Is it the proper size? Use it in doing all sewing.

Basting: This is used to hold material in place and to serve as a guide when sewing. Basting must be done



THREE TYPES OF BASTING

in such a way that the material will be held firmly, and when it is to be used as a guide it must be straight. If possible, basting should be done in such a way that the final stitches in the sewing will not run through nor across the basting-stitches; it is then easier to remove the basting, and there will be no danger of breaking the thread used in the final stitching. Basting-stitches may be long, or short, or uneven in length. One fourth inch basting-stitches should be used for holding together materials for stitching on the sewing-machine; for long seams in skirts use three $\frac{1}{4}$ inch basting with one 2 or 3 inch basting-stitch. Practice making basting-stitches.



METHOD OF MAKING RUNNING-STITCH

Running-stitches: These are very small stitches, like basting-stitch, used to hold two or more pieces of cloth.

The stitches should be even in length, and the row of stitches kept straight. Hold the material between the thumb and forefinger of each hand, with the thimble against the end of the needle; take as many stitches on the needle as possible before drawing it through, pushing the needle with the thimble-finger and guiding it with the other four fingers. Fasten thread by taking two stitches, one over the other. Practice making the running-stitch.

REVIEW QUESTIONS

1. Name the implements that should be in the sewing-basket.
2. Of what materials are thimbles made? Which are best?
3. What are shears? scissors?
4. How should scissors be cared for?
5. Name three kinds of needles used for plain sewing.
6. How is the size stated?
7. What kind of pins should be used when sewing?
8. What kind of tape-line is best to buy?
9. How is the size of cotton thread indicated? silk?

MATERIALS FOR THE SEWING-APRON

A *sewing-apron* is very necessary when one is wearing a wool or silk dress, as it keeps the sewing material from rubbing against the dress and becoming soiled, and keeps ravelings off the dress. Sewing-aprons may be made from various materials. Three which may be used for the apron made in class are dimity, lawn and gingham. All of these are cotton materials.

Dimity is a material 30–36 inches in width, light weight, thin cloth, with cords or ribs which distinguish it. It is made in white, in plain colors, or in figures. The cord or rib in dimity is made by

running a heavy thread through the material when it is being woven. The cord may run lengthwise only, or may run both lengthwise and crosswise, in which case it is called cross-barred dimity. The material usually breaks or splits along the cords when it wears out.

Lawn is a thin starched material, 36–40 inches in width, and is made in white, in plain colors, or in figures.

Both lawns and dimities fade badly when washed, especially those made in figures. They also rumple easily. These materials, however, make dainty aprons and are often trimmed with lace or finished with fancy stitches, such as feather-stitching. Lawns and dimities are used also for summer dresses. When selecting them for either aprons or dresses, choose a piece that is firmly woven of fine threads. This will require buying the medium or high-priced materials, but it is more economical to buy good material for such garments than to buy cheap cloth that will shrink and fade badly the first time it is washed. It is not economical to use time or spend money for making garments from cheap materials.

Ginghams are used probably more than any other fabric. They are of several types and vary in width and price. They are made in stripes, checks and plaids. Gingham of a good grade holds its color when washed and does not rumple like dimity and lawn.

HOME PROBLEMS AND QUESTIONS

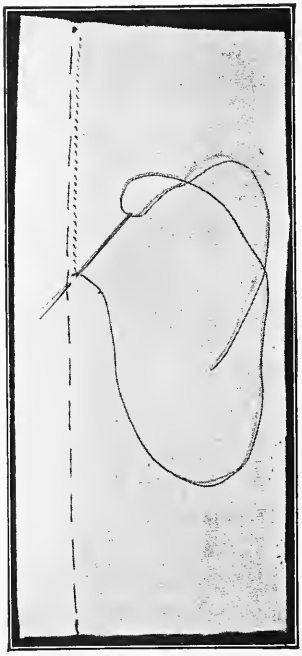
See if you can find pieces of dimity, lawn and gingham in the scrap-bag at home. Bring these to

school to use in your Textile Book. Bring to school a sample of the material you expect to purchase to use in making the apron. What is the price of the material? What is the width?

LABORATORY EXERCISES

STITCHES TO USE IN MAKING THE APRON

Textile study: Examine the samples of dimity, lawn and gingham brought to school. Discuss quality of each. From the samples brought from the stores, decide on two or three pieces that may be used for the aprons. Which will launder best? Let each pupil decide how much material will be needed for making the apron. How much will it cost? (See next lesson for description of apron.)

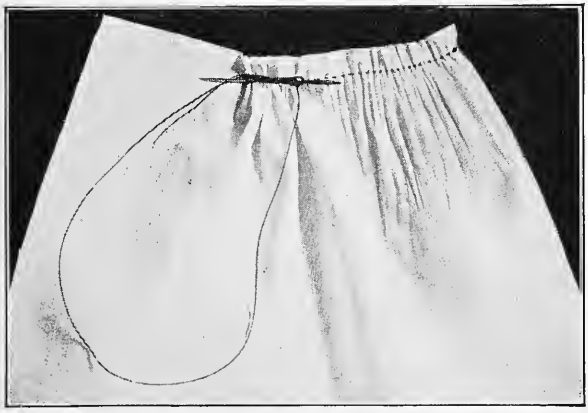


Method of Placing Needle in Hemming

STITCHES

Hemming: A plain hem is made by turning the raw edge of material toward the wrong side, one eighth to one quarter inch, depending on the width of the hem; creasing this fold firmly and folding again toward the wrong side the desired width. A piece of cardboard marked to show the width of the hem may be used as a guide to keep the hem even when

folding. Baste the hem. In making the apron the hems will be finished with the hemming-stitch down the side and the feather-stitch across the pocket. In hemming, hold the material over the first finger of the left hand with the thumb on top of the hem. Hide the knot in the thread under the folded edge of the hem. Take a tiny stitch in the material close to the fold, but before pulling the needle through, take up a tiny bit of the fold, holding

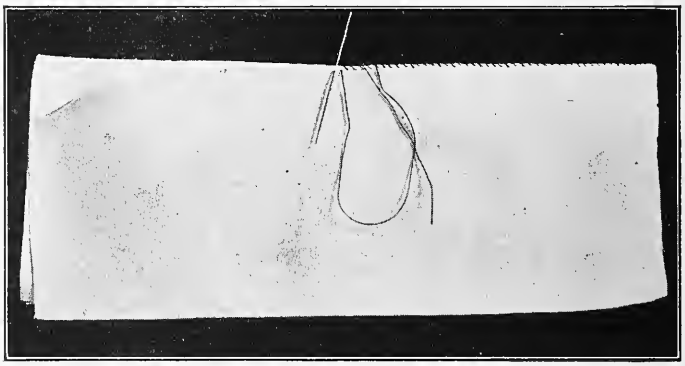


Gathers Ready for Pulling into Place

the needle in a slanting position with its point toward the left shoulder. Pull needle through. Repeat, taking the next stitch a little beyond where the needle came out. Fasten the hemming by taking stitches one over the other. A hem is used as a finish for the raw edge of cloth.

Gathering: Gathering consists of small, running-stitches with the thread so drawn as to full the material. Gathers must be "laid" if they are to go into a band easily. To do this, fill the needle as full of stitches as possible, then draw the material together. Wrap the thread around the needle in such a way that the material is held firmly, then pull down on the material, holding

the needle firmly between the thumb and first finger of left hand, doing the pulling with the right. When the cloth is creased so that the gathers stay in place, unwind the thread and pull the needle through the material. Repeat with each needleful. Gather on a single thread, being sure that there is a good knot in the end of the thread. When the gathering is finished, cut the thread without fastening, leaving it longer than the space in which the gathers are to fit. Make a knot in the end of the thread.



Method of Overhanding

Overhanding: This stitch will be used in making the pocket on the apron. Overhanding is used in sewing together two selvedge edges or two creased folds of cloth. It consists of tiny, slanting stitches taken over the two edges, beginning at the right and sewing toward the left.

Practice making these stitches on pieces of cloth, learning how to hold the cloth correctly.

REVIEW QUESTIONS

1. Why is a sewing-apron useful?
2. Describe lawn. For what purposes is it used?

3. Describe dimity.
4. What is barred dimity?
5. Do dimity and lawn launder well?
6. Why do we like lawn and dimity for making aprons?
7. Does gingham launder well?
8. Which of the three materials rumples least?
9. How is a hem made? For what is it used?
10. Why is gathering used?
11. For what is basting used?
12. When may overhanding be used?

A PIECE OF CLOTH

Cloth is a fabric woven of cotton, linen, wool, or silk. The lengthwise threads in the cloth are called the *warp*. The crosswise threads are called the *woof* or filling. The warp is the stronger set of threads. The *selvedge* of cloth is the finished lengthwise edge. It is firmer and more tightly woven than the rest of the cloth, and in wash material is apt to draw up after the cloth is laundered. For this reason it is usually cut from wash material when making a garment, and when not removed is clipped crosswise every few inches to keep it from drawing the edge of the cloth.

Nap is the shaggy substance on the surface of cloth and varies with the different kinds of cloth and the kind of fiber used. The *fiber* is the substance from which the yarns are spun which are woven into cloth. The *four principal fibers* used for making yarns are: cotton, obtained from the seed pod of the cotton plant; linen, obtained from the stems of the flax plant; wool, obtained mainly from the fleece of sheep; and silk, obtained from the cocoon of the silkworm.

Spinning is the twisting together of fiber to form yarns. *Weaving* is the process of interlacing two sets of yarns together so that they form cloth. Perhaps you have made paper mats by weaving. The machine on which the weaving of cloth is done is called the loom. Spinning and weaving were done in the home by our grandmothers, who made the cloth used by the family, but now fabrics used for clothing and household textiles are made in the factory. Very fine machinery is used, and every piece of cloth that we buy has gone through numerous processes in the factory before it is sold in the store.

LABORATORY EXERCISES

MAKING THE APRON

Textile study: Examine samples of cotton cloth. Pull out both warp and woof threads. Is there a difference in the size? Which is the more difficult to break? Pull the yarn in pieces. What is left? Examine the selvedge. Tear a piece of gingham. What happens to the edge? Would it be best to tear or cut the edge that is to be hemmed or gathered?

Material: Use white cross-barred dimity. The amount of material needed is the desired length of the apron plus $8\frac{1}{2}$ inches. Thread suitable for material. Needles suitable for thread. Button. Heavy cotton floss.

Making the apron: Take your waist measure, being sure that you do not pull the tape-line too tight. Add two inches to this measure and you will then have the necessary length of the band for the apron. Measure along the selvedge of the cloth to see if the length is as long as, or longer than, the required band length. Cut off the selvedges, making the edges even. Straighten both ends of the material. This is done by pulling out a woof thread and cutting on the open line left after

drawing out the thread. Always pull out a woof thread which extends clear across the cloth.

For the band, cut off a piece $2\frac{1}{2}$ inches wide down the lengthwise side of the material. Draw a thread to follow in cutting.

Turn a hem, $\frac{1}{4}$ inch wide, towards the right side of the material, down each lengthwise edge of the apron. Baste and hem by hand. Across the bottom of the apron make a half-inch hem, turning it toward the right side. Baste. This hem is to be feather-stitched later.

Gather the top of the apron, running the gathering thread $\frac{1}{4}$ inch from the edge of material. Take your band material and, if it is too long, cut it off until it is the required length. If it is too short, perhaps some one using the same material as you are using will have a piece of band material left, and you can sew this on the end of your band, using fine running-stitches. Be sure when you put the band on the apron that this seam is inside the belt.

Find the middle of the top of the apron and the middle of the band. Pin these two points together, placing the right side of the band against the right side of the apron. Measure seven inches from the middle of the band toward each end of the band. Mark with pins. The gathers are to be made to fit into this space. Pin the sides of the apron to the band at these points. Pull up the gathering thread until the gathers lie evenly in the space. Wrap thread around the pin holding the band and apron together, so that the thread is tight and will not allow the gathers to slip. Distribute the gathers evenly across the space and pin to the band in several places. Baste apron to band, across gathers, with $\frac{1}{8}$ inch basting-stitches. Sew together with running-stitches, or stitch by machine.

Begin at the gathers on one side and fold the band in about $\frac{1}{4}$ inch all the way around to the gathers on

the other side. Turn the folded edge down over the gathers so that the fold just covers the gathering stitches. Pin into place carefully. Baste the band together along the open side and across the ends, being sure that the folded edges are even and the corners square. Overhand together. Baste band down on gathers. Hem.

REVIEW QUESTIONS

1. What is cloth?
2. What is meant by spinning? weaving?
3. Name the four principal textile fibers.
4. From what source is each obtained?
5. What is the selvedge on cloth?
6. What should be done with it when making wash garments?
7. What is meant by the nap on cloth?
8. What is a loom?

GINGHAMS

Gingham is a cotton fabric which needs especial study because it is used in such large quantity in this country. There are several kinds of gingham.

Apron gingham is a coarse material made of rather heavy threads woven together somewhat loosely. It shrinks when washed. It is used for making aprons and sometimes for house dresses.

Domestic ginghams are a cheap grade of gingham, usually woven of coarse yarns, and are harsh to the touch when crushed in the hand. These are often used for dresses or for aprons. They are very similar to apron gingham and about the same in price.

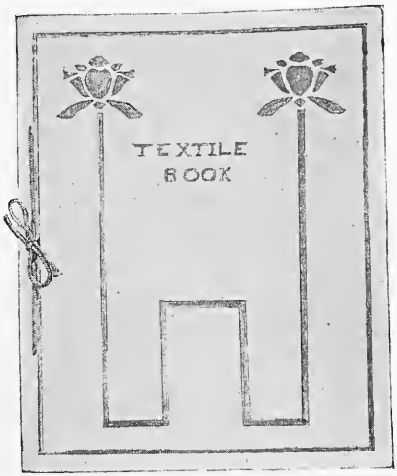
French gingham is made of even, smooth yarns firmly woven together. It does not shrink when washed and wears extremely well. French gingham is used for making dresses. It has a smooth finish

that is very beautiful, and the cloth is soft when crushed in the hand. It is much more expensive than either apron or domestic ginghams.

Zephyr ginghams are made of very fine yarns and are thinner than other ginghams. They always have heavy threads running through them, making cords or ribs. They are usually made in stripes or plaids. They are used for dresses.

Madras gingham is a rather heavy cloth used for men's shirts and women's tailored shirtwaists.

Kindergarten gingham or *cloth* is a firmly woven, rather heavy material, used for children's rompers. It wears well and is a kind of gingham that has become very popular.



THE COVER OF THE TEXTILE BOOK

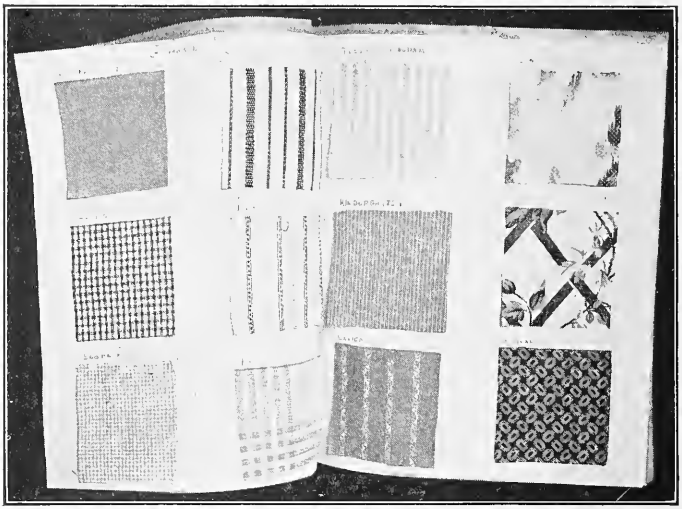
Light green paper, with dark green design in water color; tied with a green cord.

Scotch ginghams are very fine quality ginghams usually made in plaid designs — the designs being copies of the Scotch Highlanders' plaids, thereby giving the cloth its name. It is an expensive gingham, used for dresses.

Chambray is a gingham that is always woven with a colored warp and a white woof. It is never woven in designs but has the appearance of a plain color. It is used for dresses and aprons.

All gingham is colored alike on both sides. This is because the yarn is dyed before the cloth is woven. When cloth is dyed in this way it holds its color. This is why gingham usually launders well.

Gingham is woven with a plain weave, that is, over one thread, under one thread, over and under



A Page in the Textile Book

Showing samples of different ginghams.

across the cloth. The next row is woven over the thread that was under in the first row, and under the thread that was over, and so on across the cloth. The third row is made like the first row.

Most girls wear gingham dresses, and it is well to know the different kinds that may be purchased.

HOME PROBLEMS AND QUESTIONS

How many kinds of gingham scraps can you find at home? Keep them for the Textile Book. What is the price per yard of the following ginghams: Domestic, Apron, Chambray and Madras? Do your local stores carry French ginghams? If so, what is the price? Do ginghams cost more than they did two years ago? Bring samples to school.

LABORATORY EXERCISES

MAKING THE APRON (*Continued*)

Textile study: Make a Textile Book by using white sheets of paper for the leaves and a colored or brown-paper cover. Decorate the cover as desired. Cut the lawn, dimity and gingham samples equal in size. Paste each in the book by one edge, so that the samples can be examined on both sides. Under each sample place the name of the material. As other materials are studied they can be added to the book.

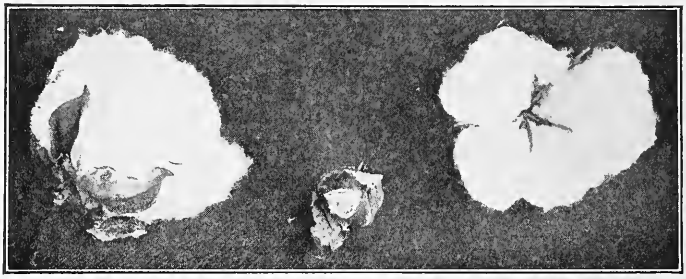
Continue work on apron.

REVIEW QUESTIONS

1. Name the kinds of gingham mentioned in the lesson. Describe each.
2. Which of them are used for dresses? for aprons? for children's clothes?
3. Why does gingham hold its color well?
4. In what designs is gingham made?
5. What kind of weave is used in making gingham?
6. What is the price of the cheaper ginghams? of the more expensive?
7. Is all gingham of the same width?
8. How will a knowledge of ginghams be of value to us?

COTTON

More clothing is made from cotton than from any other fiber. Besides the many kinds of cloth used for dresses, waists, aprons and underclothing, there are stockings, gloves, knitted underwear, laces and embroideries which are made from cotton. Thread for sewing, crocheting and embroidering is made from cotton. Absorbent cotton is used by doctors, and gun cotton is used for explosives.



Cotton Bolls

Cotton is grown in the Southern States. Texas produces more cotton than any other state. The principal countries growing cotton besides the United States are Brazil, India and Egypt. There are a great many different varieties of cotton.

The cotton seeds are planted in the early spring. The crop begins to ripen in July and continues to do so until November or sometimes December. *Cotton fiber* is obtained from the cotton bolls, or seed pods, of the cotton plant. The outside of the cotton boll is brown, but when it is fully ripe the brown covering breaks and a white fluffy mass appears; this is the cotton fiber, and it clings to the

seeds. The cotton is ready for picking when it reaches this stage.

Men, women and children go through the fields picking the cotton from the bolls by hand and placing it in bags or baskets. The cotton is then sent to the gin house where the fibers are separated from the seeds. Formerly the seeds were pulled from the fiber by hand, and it took one person a whole day to separate one pound; but in 1793 Eli Whitney invented a machine called a saw gin which separated the fibers from the seeds. This machine, now known as the cotton gin, made it possible to do much more work in one day than could be done by hand. All our cotton to-day is separated by machinery and the process is called "ginning."

The *oil* from the seeds is used in making salad oil, cooking fats, soaps and candles, and the cake left after the oil is pressed out is used for feeding cattle and making fertilizer.

The cotton fiber is pressed into *bales* which are covered with cloth and bound with iron bands. It is then ready for shipping. Cotton bales in the United States weigh about 500 pounds.

LABORATORY EXERCISES

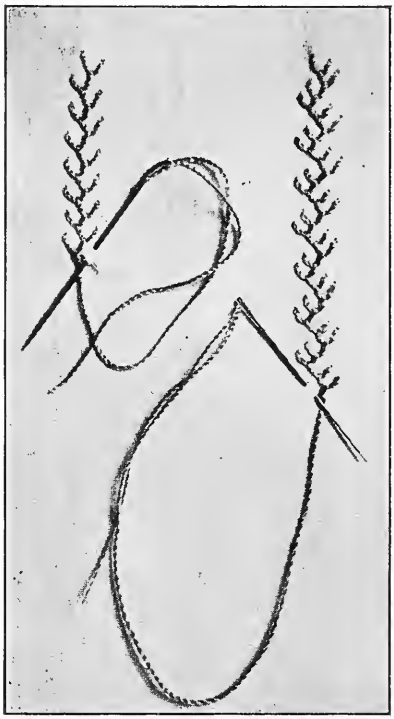
MAKING THE APRON (*Continued*)

Textile study: If possible, secure some cotton bolls to examine. Observe how the seeds and fiber are joined. Separate the fiber from the seed. Place a fiber under a microscope, if there is one available, to see how it looks.

STITCHES TO USE ON THE APRON

Feather-stitching: This is a stitch used for decoration. On the apron it will be used to fasten the hem and to make the divisions in the pocket, as well as for decoration.

Place the work over the left forefinger and hold it with the thumb. Start with the knot in the thread on the wrong side and at the end farthest from you. Work towards you. Place the needle as shown in the picture, holding the loop of thread down with the thumb of the left hand. A stitch is made on one side of the middle line, slanting the needle toward the line, and then on the other side of the middle line, pointing toward the line. The feather-stitch may be varied by making two or three stitches on one side before crossing to the other side of the line.

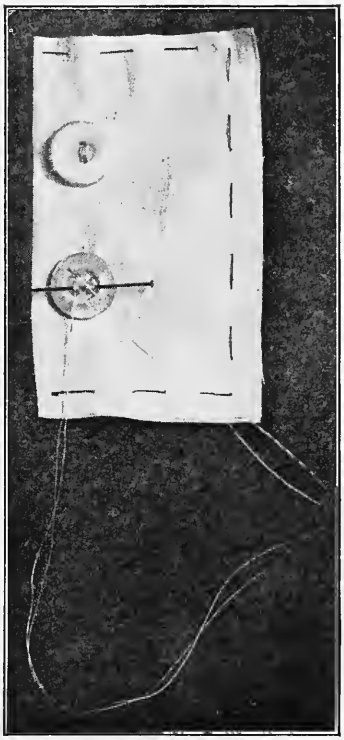


POSITION OF THE NEEDLE IN FEATHER-STITCHING

The aim in feather-stitching is to do it evenly. Practice making the stitch on a piece of $\frac{1}{8}$ inch checked gingham. When feather-stitching the apron, perhaps

you will need to run a basting thread to mark the "middle line."

Buttons and buttonholes: The apron band should have a button and buttonhole so that the apron may be put on easily. Sew on the button, using one not more than $\frac{1}{2}$ inch in diameter. The button is sewed on in the following manner. Use a double thread in the needle. Find the middle of the width of the belt, one half inch from the end; at this point begin with the knot in the end of the thread on the right side of the belt; run the needle through a hole in the button, place a pin over the top of the button and sew over it; bring the needle down through the opposite hole in the button and through the cloth to the wrong side, then up through the first hole, and repeat the process three or four times. Remove the pin and wind the thread around the stitches under the button, run the needle through to the wrong side, and fasten with two or three stitches, one over the other.

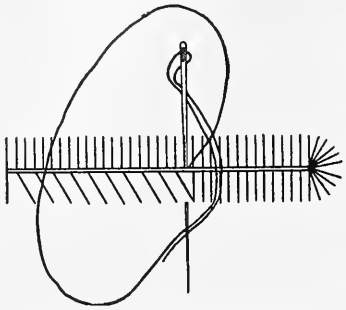


Method of Sewing on Button

Measure exactly where the buttonhole should be placed, and mark with a pin. The buttonhole should

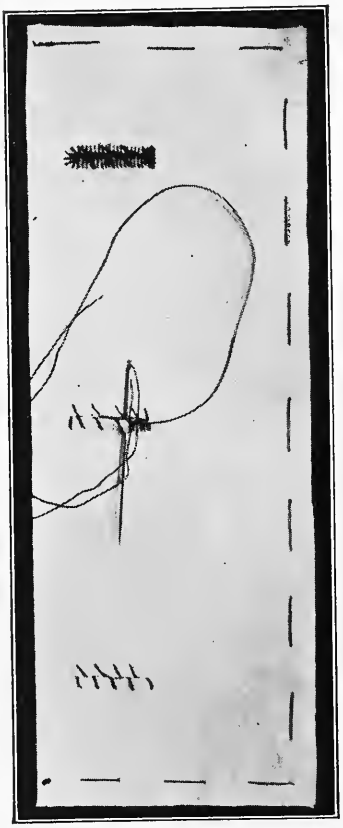
be one half inch from the end of the belt, cut lengthwise of the belt, and just large enough to slip over the button easily. The buttonhole may be cut with the buttonhole scissors, or by folding the material across the point where the middle of the buttonhole is to be and cutting through the four thicknesses of cloth from the fold, a distance of one half the length of the buttonhole desired. Cut the buttonhole on a thread of the material.

The buttonhole must first be overcast. *Overcasting* is much like overhanding, except that the stitches are deeper and farther apart and the work is done from left to right. It is used to keep edges from raveling. Use a thread without a knot, and overcast the two sides of the buttonhole, beginning at the end farthest from the end of the belt. Do not cut or fasten the thread when the overcasting is finished, but begin at the same point to make the buttonhole-stitch. Hold the material between the thumb and first finger of the left hand, with the buttonhole running parallel with the first finger. Place the needle and thread in the position shown in the illustration, pull the needle through, drawing it at right angles to and toward the cut edge of the buttonhole. A small loop or knot called a "purl" will be formed on the edge of the buttonhole. This prevents the edge of the buttonhole from wearing out or losing its shape. Continue with the buttonhole-stitch, placing the stitches close together until the end is reached. This is the end nearest the belt end. To finish this end, continue making the buttonhole-



Method of Making Buttonhole-stitch

stitch around the end, letting the purls all come together at one point. It takes about five stitches to do this, and when it is finished the needle should be in a position to continue the buttonhole-stitch down the second side. This is called a "fan" end. Turn the buttonhole so that the unfinished side is in the right position for making the buttonhole-stitch. Continue the buttonhole-stitch until the other end is reached. This end is to be finished with a "bar." This is made by taking two or three stitches across the end and extending them the width of the buttonhole-stitches. The bar is finished by making the *blanket-stitch* over these threads and through the cloth. This stitch is done from left to right, the needle and thread being placed in the position shown in the picture on page 137. Make the stitches close together. Run the needle through to the wrong side and fasten with two or three little stitches, one over the other, being sure that they do not show on the right side. The result should be a perfect buttonhole.



Method of Making Buttonhole

Practice making the overcast-stitch, the blanket-stitch and the making of buttonholes. One eighth inch checked gingham is good to use for practice work until the work can be done evenly. Do not make the buttonhole on the apron until you have learned to make a good one. This will require practice.

REVIEW QUESTIONS

1. In what ways is cotton fiber used?
2. Where is cotton grown?
3. Describe the structure of the cotton boll.
4. How is cotton picked?
5. What is ginning?
6. Who invented the first cotton gin? When?
7. How is cotton fiber prepared for market?
8. Name four new stitches that you have learned.
9. Name some other uses for each stitch besides the use on the apron.
10. How does overhanding differ from overcasting?

HOW COTTON CLOTH IS MADE

The cotton bales are shipped to many parts of the world where factories use the cotton in different ways. Some factories make only thread, others make only certain kinds of cotton cloth, such as gingham, while still others may make only underwear and hosiery.

When the bales reach the factory they are opened and the cotton is removed from its wrappings. It is then placed in a machine which blows out the dust and dirt. This machine is called a *picker*. The cotton as it leaves this machine looks like a roll of cotton batting about six feet wide, such as we see used for making bed comforters. This roll is then placed in another machine in which the cotton

is cleaned more thoroughly and the fibers are straightened. When it comes from this machine it is in the form of a long, soft rope. This process is called *carding*.

The cotton rope is then passed through a series of machines, each one making the rope smaller in size and twisting it to make it stronger. This is called *spinning*. The thread which is thus spun from the rope, and is to be used in making cloth, is called *yarn*.

The yarn may be *bleached* before it is ready for the loom. Perhaps it is dyed, as in making gingham, or it may be prepared for making mercerized cotton cloth. The yarn is then *sized*. This is a process in which starch or some other material is put into the yarn to make it smoother, so that it will stand the strain of weaving. Have you ever seen any one use beeswax on sewing-thread? It has the same effect as the sizing on the yarn.

The yarn is now ready for the loom. *Cloth* is now made on *looms* run by machinery. Our great-grandmothers made the cloth on hand-looms, which was a very slow process. The first loom run by machinery was invented in 1784 by Edmund Cartwright of England.

In preparing the loom for weaving, the *warp yarns* are wound on a *roller* at the back of the loom and are threaded through the frame of the loom and fastened to the *cloth beam* in front. The *woof yarns*, or filling yarns, are wound on *bobbins* or spools which are fastened into the *shuttle*. In weaving, the shuttle passes back and forth across the warp yarns, weaving under and over them as the design of the cloth requires. In all looms there are devices for separat-

ing the warp threads so that the shuttle passes through easily, and other devices for pushing the woof threads tightly together. As the cloth is woven, it is rolled on the beam at the front of the loom.

The cloth, as it comes from the loom, is inspected to see if there are any defects, and the thread-ends are cut off. The cloth may then be bleached, as in making white materials; or perhaps it is dyed, if the yarns were not dyed before weaving. Usually the cloth is starched, and at the last it is stretched and pressed between heavy rollers to give it the smooth finish we like on cotton cloth. It is then wound into *bolts* and is ready for the market.

LABORATORY EXERCISES

MAKING THE APRON (*Continued*)

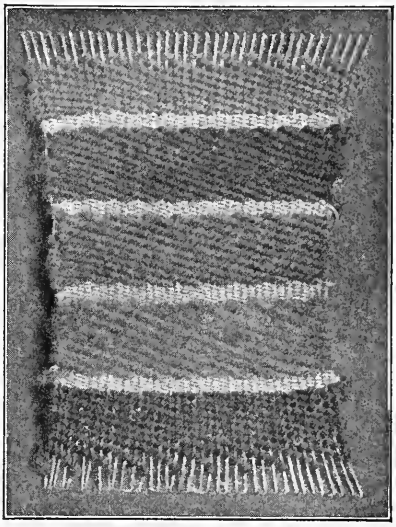
Textile study: Examine the threads pulled from a piece of cotton cloth. Can you see the twist in the thread? If there is a small hand-loom at the school, practice weaving on it. Examine the loom. Look at pictures of power-looms. Perhaps there is in the neighborhood a factory doing weaving which the class can visit.

Make a weaving-card by taking a piece of stiff cardboard and using a large darning-needle; make a row of holes one inch from each end, having the holes one fourth inch apart. Take heavy, firmly twisted, white cotton floss, and thread it into a large darning-needle. Make the warp threads by bringing the needle up through a hole at one corner, taking the thread across and down through the opposite hole. Bring the needle up through the next hole, running the thread across the card to the opposite hole, and so on until the card is finished. Fasten the threads well. Use colored yarn for the woof

threads. Thread the yarn into the darning-needle, and do one inch of plain weaving on the card. The needle takes the place of what part of the loom?

Save this weaving-card to use later.

Finishing the apron: Make feather-stitching with the cotton floss across the half-inch hem of the apron, doing it on the right side of the hem. This makes the finish for the top of the pocket. Turn up the bottom of the apron eight inches on the wrong side. Baste the hemmed edges evenly together at each side. Overhand these edges together, using very small, even stitches. Take out the basting and turn the pocket over to the right side of the apron. Pin it down evenly to the apron. Measure the width of the pocket and divide it into thirds. Mark each third with a pin. Make a straight line of basting from the top of the pocket to the bottom at each pin, thus marking the thirds. Feather-stitch down these lines, stitching through both thicknesses of material. Sew on the button and make the buttonhole.



THE WEAVING-CARD

REVIEW QUESTIONS

1. For what is the picker machine used in making cotton yarn?
2. What is the next process through which the fiber goes? Explain the process.

3. How is cotton yarn spun?
4. Through what other process does the yarn go before it is ready for the loom?
5. How is the loom prepared for weaving?
6. When was the first power-loom made?
7. Can you explain, after you practice weaving, how the selvedge is made on cloth?
8. How is cotton cloth finished after it leaves the loom?

COTTON MATERIAL COMMONLY USED FOR UNDERWEAR

White cotton materials commonly used for making *underwear* are muslin, long cloth, cambric and nainsook. Cotton crêpe and dimity are sometimes used.

Muslin is a soft cotton fabric that is 36 inches wide. The muslin we use for underclothing is bleached and is a clear white. Sometimes unbleached muslins are used for sheets or pillow-cases. An *unbleached muslin* is cream-colored and is not so well finished as the bleached muslin. It is cheaper in price because it takes less time and work to finish this cloth than the bleached muslin.

Most factory-made cloth is given a *brand name* that can be found stamped on the cloth, or on a label pasted on the outside of the bolt, or on the wrappings of the bolt. The quality of muslin is often known by a brand name. Alpine Rose is a fine quality of muslin suitable for underwear.

Long cloth is a cotton fabric which is much like muslin, but softer and finer. It is 36 to 42 inches wide and comes in different qualities. It is called long cloth because it was first used in making long dresses for babies.

Cambric is a cloth with a smooth glossy finish. It is like muslin or long cloth, but can be distinguished by its gloss. It is 36 inches in width. Berkeley cambric is one grade that is very good for underwear. Lonsdale cambric is another grade often used.

Nainsook is a very soft light-weight material which comes in different qualities, varying in price. It varies in width from 36 to 45 inches. The finer grades are beautifully finished and are used for infants' clothes. Nainsook does not wear so well as muslin or long cloth when made into underwear, but is much used for finer garments.

Cotton crêpe is a soft, crinkled material that does not need to be ironed after washing. It is often used for underwear for this reason. It is 27 to 44 inches in width and comes in different grades. In selecting cotton crêpe for underwear, buy the kinds that are the softest and that do not feel harsh when crushed in the hand.

Cross-barred and *other dimities* are used for underclothing. They do not wear so well as any of the other materials mentioned in this lesson.

When buying muslin, long cloth, cambric, or nainsook, it is more economical to purchase them by the bolt than by the yard. For making the underwear in class we shall use long cloth, because it is soft and easy to handle and yet wears well and launders well.

HOME PROBLEMS AND QUESTIONS

Collect samples of muslins, long cloth, cambric, nainsook and cotton crêpe. Perhaps you cannot find all of them, but some will find what others

cannot get, and by dividing samples each can have all in her sample book. What is the price of each material? What is the price of a twelve-yard bolt of long cloth?

See if you can find any one who can tell you about the spinning and weaving done by our grandmothers. Perhaps you can find something in the library about the making of cloth in early times. Write a story about "The Making of Cloth in Early Times" to read in class and to put in your Textile Book.

LABORATORY EXERCISES

PLANNING THE NIGHTGOWN

Textile study: Examine $\frac{1}{4}$ yard samples of each of the cotton materials mentioned in the lesson. Can you tell what each is by looking at it carefully? What kind of weave is used in making them? Compare these samples with the ones brought from home. Does the quality differ? Which are the best materials to use in making underwear?

The pattern to use for the nightgown: Mount on cards, or sheets of paper, pictures showing nightgowns of different patterns. Examine these and decide which would be the easiest to make. The class will make a one-piece kimono nightgown. Can you tell why this style is selected? The pattern should be purchased at the store, and will be bought according to the size of the girl to wear the gown. If you will look in the pattern sheet or book you will see how the sizes for a girl's nightgown are shown. What sizes are needed for the class?

Materials needed for the nightgown: Use long cloth of good grade for the nightgown. To determine the amount needed, measure from the top of the shoulder next to the neck down to the floor, and add three inches

to this length. (See Frontispiece.) Multiply this by 2. (If the teacher will buy the material by the bolt and sell it to the children, it can be obtained much cheaper.) Be sure to select long cloth, thirty-six inches in width, as this avoids piecing the sleeves and is not so wide that a strip down the side is wasted. Use Nos. 80 and 90 thread, with Nos. 8 and 9 needles. Basting thread may be used.

The Apron: Finish the apron. Press it carefully. Wear it when you are sewing.

THE FINISHED SEWING-APRON

Made of a cross-barred dimity and feather-stitched with light green floss.

REVIEW QUESTIONS

1. Name white cotton materials that are used for making underwear.
2. How can you tell muslin, long cloth and cambric apart?
3. What is unbleached muslin?
4. What does cotton crêpe look like?
5. Is dimity a good material to use for underwear? Why?
6. For what kind of underwear is it best to use nainsook?
7. What is the most economical way to buy long cloth or other underwear material?
8. Explain how the amount of material needed for the nightgown should be determined.
9. How are sizes for girls' nightgowns given in the pattern sheets?
10. How is the size of the thread needed for making the nightgown determined?

THE SEWING-MACHINE

The sewing-machine is used now so commonly that many persons do not know that sewing-machines have been in general use for only about sixty years. The *first sewing-machine* was made by Elias Howe of Spencer, Massachusetts, in 1846. In 1851 Isaac Merritt Singer began making sewing-machines, and "Singer" sewing-machines are still used, but they have been much improved in structure. In 1856 James A. E. Gibbs, a farmer of Virginia, made a machine that used only one thread, and this improved machine is now sold under the name of "Wilcox and Gibbs." Another man who helped improve the very early sewing-machines was Allan B. Wilson, whose ideas were carried out in making the "Wheeler and Wilson" machine. At present there are many makes of sewing-machines on the market.

All sewing had to be done by hand before the invention of the sewing-machine, and the making of a garment was a slow and tedious process. Little girls were taught to sew when they were very young, and many beautiful samples of their sewing have come down to us. One kind of such sewing is the "sampler" made on canvas with elaborate patterns in cross-stitch. Another favorite way of teaching a girl to sew was by having her make a patchwork quilt. While we should be very glad that we do not now have to do all our sewing by hand, yet we must learn how to do good hand-sewing, since there are many places in garment-making where it should be used if the garment is to look well finished.

There are *two types of sewing-machines* that may be purchased:

1 — the double thread, or lock-stitch machine, on which two threads are used. One can stitch on either the right or wrong side of the material with this machine, as the stitching should be alike on both sides. This is the most common type of machine.

2 — the single thread, or chain-stitch machine, on which only one thread is used. One must always stitch on the right side with this machine, as the wrong side of the stitching is in the form of a chain-stitch. When finishing the stitching, the thread must be fastened carefully, as the stitching pulls out very easily. One type of chain-stitch machine is used for sewing together the tops of sugar, flour and salt sacks, but this is a machine with a very different kind of stitch from the one made by the chain-stitch machine used for making garments.

Sewing-machines run by electricity are now used in some homes. These are very helpful when there is a great deal of sewing to be done. Machines in garment factories are usually run by electricity.

A sewing-machine must be studied carefully, so that one may understand how the parts are used and how they should be cleaned and oiled. A sewing-machine will not do good work unless it is in good order.

HOME PROBLEMS AND QUESTIONS

Make a list of the names of different kinds of sewing-machines which you have seen or heard about. What is the price of a good sewing-machine?

LABORATORY EXERCISES

Practice stitching on the machine: Examine the machine to be used and find the following parts on a double-thread machine:

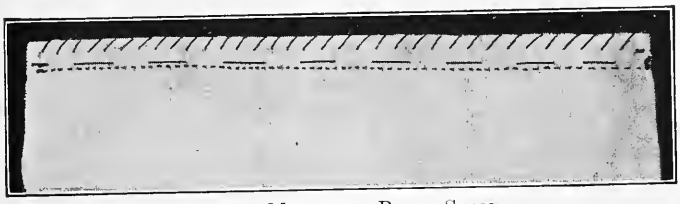
1. Bobbin on which the lower thread is wound.
2. Shuttle which carries the bobbin.
3. Plate upon which the cloth rests in sewing.
4. Feed which pushes the cloth along when stitching.
5. Presser-foot which helps to hold the cloth in place. How is it raised and lowered?
6. Needle-bar which holds the needle. How is the needle fastened into the bar?
7. Spool-holder for holding the upper thread.
8. Bobbin-filler to use in winding the bobbin.
9. Tension, used for regulating the tightness of the stitch.
10. Screw, to regulate the length of the stitch.
11. Treadle, upon which the feet rest.
12. Connecting-rod which attaches the treadle to the machine or "head" on top of the table of the machine.
13. Places for oiling. The book of directions coming with the machine will help you find these places.
14. The method of covering the "head" when it is not in use.

Practice running the machine without threading it until you can work the treadle easily, and until you can hold the cloth under the needle correctly. When you can make a straight row of needle-holes across the cloth you may begin making practice seams.

Be careful to have the needle-bar raised as high as possible before removing the cloth from under the presser-foot, so that you will not bend the needle-point. What are the directions for removing the cloth from the machine, as given in the book of directions?

Seams: A seam is the joining line formed by sewing together two or more pieces of cloth.

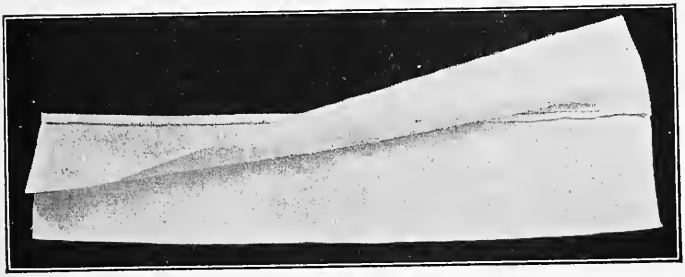
A plain seam is made by joining two raw edges with a row of stitching, the stitching being done the desired distance from the edge of the cloth. The raw edges



STEPS IN MAKING A PLAIN SEAM
1, Basting; 2, Running-stitch; 3, Overcasting.

are afterwards trimmed and overcast. A plain seam is used in making dresses and aprons, and sometimes petticoats.

A French seam is a seam so made that the raw edge of the cloth is covered. Make a very narrow plain seam on the right side of the material, remove the



MACHINE-MADE FRENCH SEAM
Showing first and finished seams.

bastings, trim the ravelings from the edge, crease the cloth along the stitching so that the right sides of the cloth are together, baste, and stitch through the two thicknesses of cloth just below the raw edge inside the seam. A French seam is used in making underwear, lingerie dresses and waists.

Practice making a plain seam and a French seam, both by hand and on the machine.

Continue your practice on the sewing-machine at home if possible.

REVIEW QUESTIONS

1. When and by whom was the first sewing-machine made?
2. Name some other men who helped to improve the early sewing-machines.
3. What two types of sewing-machines are there? Which is used in the sewing-room? Which kind do you have at home?
4. Name the principal parts of the "head" of a sewing-machine. For what is each part used?
5. What is the treadle? How is it connected with the other parts of the machine?
6. How is the stitch regulated on the machine?
7. When the sewing is finished how should the machine be cared for?
8. Name four makes of double-thread sewing-machines; name one make of chain-stitch machine.
9. Why is it important to learn to sew well by hand?

OTHER COTTON MATERIALS

There are many other kinds of cotton cloth which may be purchased besides the ones that have been studied. It is well to know the names of some of the most common of these materials, and also for what purpose each is used. Materials that can be purchased at all times in the store are called "standard materials." The ones we are to study are standard materials.

Calico is a cheap grade of cotton cloth which is used for making inexpensive dresses, wrappers and aprons. It is made in figured designs, either on a white or colored background, and is 24 to 36 inches wide. It usually shrinks and fades when washed.

Cheesecloth is a very thin, light-weight, loosely woven cotton cloth, usually 36 inches wide. It is used, like bunting, for decoration, for dust-cloths and for many other purposes. Gauze used in surgery is one kind of cheesecloth.

Canton flannel is a cotton material with a smooth surface on one side and a long soft nap on the other. It was first made to sell in Canton, China, whence came its name. It is 27 to 30 inches wide and is not dyed. It is used for interlinings in coats, and sometimes for underwear.

Cretonne is a rather heavy cotton cloth made in stripes and colored floral designs. It is 36 to 50 inches wide. It is used for draperies, chair covers and cushions, and for bags and other fancy articles. It often fades in the sun and when laundered.

Chintz is a fabric much like cretonne, and is used for the same purposes.

Denim is a heavy, strong cloth used for covering furniture, for pillows and for men's overalls. It is 36 inches wide and comes in various colors.

Flannelette is a cotton cloth with a soft fine nap on both sides. It is often made in stripes or checks, which are printed on a white or colored surface. It is used in making kimonos, wrappers, or winter nightgowns.

Organdie is a sheer, very fine, light-weight material that is given a stiff finish. It is used for dresses and waists. It is made in plain colors, or in figures on a white or colored background. It is 18 to 60 inches wide, and different widths and grades are sold at very different prices.

Percale is a closely woven, firm material used for dresses or aprons. It comes in white or plain colors,

or in figures on a white or colored background. It is usually 36 inches wide.

Piqué is a heavy white material used for dresses, vests, neckties and bedspreads. Cords or figures are woven in the cloth when it is made. It is 27 to 40 inches in width.

Sateen is a cotton cloth, woven like satin, and the right side has a smooth, glossy surface. It is used for linings, for petticoats, for covering furniture, for bags and in other ways. It is white, or made in plain colors, or in figures on a white or colored background. It is 27 to 36 inches wide.

HOME PROBLEMS AND QUESTIONS

Find samples of as many cotton materials as possible. Ask the price per yard of the following: calico, percale, organdie, cretonne and sateen.

LABORATORY EXERCISES

MAKING THE NIGHTGOWN

Textile study: Examine samples of each of the materials mentioned in the lesson. Which are plain-weave materials? Use a hand microscope to study the materials. Compare calico and percale; canton flannel and flannelette; organdie and lawn; cretonne and chintz. How can you tell one from the other?

Cutting out the nightgown: Read the description of the pattern given on the envelope. Open the pattern. Study all the groups and rows of different dots, notches, etc., and find what each one means. Does the pattern allow for the seams? Measure from the shoulder at the neck of your pattern to the bottom of the pattern. Is the pattern the right length according to the measure-

ments you made when planning the amount of long cloth needed? If it is too long, turn up the extra length at the bottom; if too short, allow the extra length when cutting the gown.

Follow directions for laying the pattern on the material given on the direction-sheet. Pin securely to cloth. Make an allowance for extra length if needed. How will you do this? Cut out carefully, making all notches in the cloth that are indicated in the pattern. Remove the pattern from the cloth, fold it carefully and put it back in the envelope. Where should the pins be put? Fold together the pieces of cloth that are left and place them in your sewing-box.

Make French seams in the gown, sewing them on the machine.

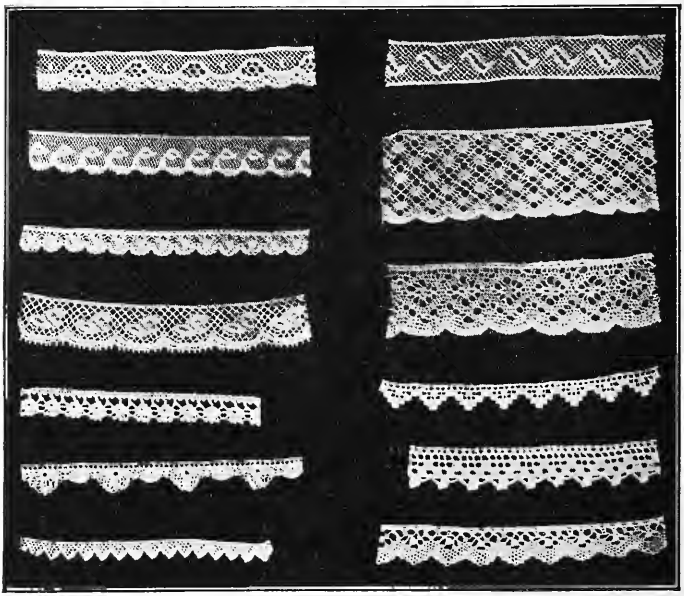
REVIEW QUESTIONS

1. Name several cotton materials studied in the lesson.
2. Name the cotton materials that can be used in making dresses; aprons; underwear.
3. What cotton materials are used for draperies?
4. For what kind of dresses should organdie be used? gingham?
5. For what is cheesecloth used?
6. Name any other cotton materials that you know about which have not been studied.
7. Why is it necessary to read the directions with the pattern before cutting a garment?
8. Name different makes of patterns that can be purchased at the stores.

FACTS ABOUT LACE

Lace is often used for decorating underwear. When the right kind is selected it makes a very dainty finish. The lace used with muslin, long cloth, or cambric should be heavier than that used with

nainsook, because the weight of the material is different. There are several kinds of lace that may be used for underwear, and in order to select it wisely one must know (1) the names of the different kinds, (2) the price that must be paid for a good quality, and (3) the points that should be



Lace Edgings of Good Design

watched in choosing a design that will launder and wear well.

All lace was originally made by hand, and was very expensive. Now a large part of the lace which we use is made by machine and is much cheaper than the hand-made lace. The *machine lace* is made in the same patterns as the hand-made lace, and the

better grades are very pretty. The kinds of machine-made lace commonly used for underwear are:

1 — *Valenciennes* of two kinds: German, which has a round mesh, and French, which has a diamond-shaped mesh. Valenciennes laces are suitable to use on nainsook or dimity underwear, on long cloth, or on crêpe. Valenciennes lace is made from cotton thread.

2 — *Torchon* lace is made from linen thread and sometimes from cotton. The cotton torchon is cheap in appearance and does not look so well as the linen after it is laundered. Torchon laces are heavier than valenciennes laces and are suitable to use on muslin, long cloth, or cambric underwear.

3 — *Cluny* lace is a heavier lace than torchon. Some kinds are very heavy and not suitable for underwear, but are used as a finish on such articles as doilies, curtains, or dresser-covers. Cluny laces of the finer kinds may be used on muslin or cambric.

4 — *Irish* lace is a heavy lace, suitable only for long cloth, cambric, or muslin underwear. It is sometimes used with thin materials in making waists or dresses. Perhaps you have seen some one crocheting Irish lace. When fine thread is used, and the work is well done, it is a very pretty lace to use.

5 — *Filet* is another lace sometimes used on underwear. It is a square-mesh lace, which means that the openings between the framework of the lace are square. It comes in both heavy and light-weight varieties, and makes a dainty finish on long cloth, nainsook, or dimity. Filet is another lace often crocheted by women to-day, but most of the lace thus made is too coarse to look well on underwear.

HOME PROBLEMS AND QUESTIONS

Bring to school any samples of lace you can find at home. Look at the picture of the laces and see how many you can recognize.

LABORATORY EXERCISES

MAKING THE NIGHTGOWN (*Continued*)

To make the hems on the gown: The bottom of the gown is to be finished with a three-inch hem. Make a guide, or gauge, to use in turning the hem; baste and stitch on the machine. On the bottom of the sleeves make a $\frac{1}{8}$ inch hem. Baste and hem by hand.

Try on the gown to see if the neck is the size you wish. If not, trim it around the edges. Turn a $\frac{1}{8}$ inch hem around the neck; baste and hem by hand. This hem is harder to make because the neck is curved, and in order to do it well the hem must be basted very carefully with $\frac{1}{8}$ inch basting-stitches. Remove all bastings.

REVIEW QUESTIONS

1. How was lace first made?
2. Name the machine-made laces that may be used for underwear.
3. What kinds of lace are suitable to use on muslin, long cloth, or cambric underwear?
4. What kinds are suitable to use on nainsook underwear?
5. Why is torchon lace not suitable to use with nainsook? valenciennes with muslin?

FACTS ABOUT LACE (*Continued*)

Lace edging is made with one straight edge and one scalloped edge.

Lace insertion is made with two straight edges, and is used between two edges of cloth, between

two strips of lace edging or insertion, or with beading. There are many combinations in which it is used, and different ways in which it may be joined in sewing to other material. Insertion and lace of the same kind come in like patterns, and when both are to be used on a garment, the patterns should be the same.

Good Types of Beading

Beading is made with two straight edges and with openings large enough for ribbon of different sizes to be run through. The openings for the ribbon are of different shapes, — square, round, rectangular, or oval. Beading is made from either linen or cotton thread.

Lace edging, insertion and beading are usually purchased by the yard, unless many yards are to be used, when it is bought by the bolt. It is usually cheaper when bought by the bolt.

The straight side on edging, insertion, or beading should be finished with a strong thread which is not broken at any point. We sew over this thread when overhanding the lace to cloth or other lace, and in order to make a good joining the edge of the lace must be firm.

When selecting any kind of edging, insertion, or beading, see that the pattern is joined together securely, without fine threads that are likely to break in a short time. The best beading is always made with firm, even threads, with the threads forming the openings fastened tightly to the threads forming the edges.

Lace edgings launder best which have the least number of picots used in finishing the scalloped edge. A *picot* is a tiny loop on the edge of the lace scallop.

Edging that is about one half inch wide will make the daintiest finish for the nightgown, as it is to be used with beading. The beading must not be wider than the edging. Too much lace, or lace that is too wide, will spoil the appearance of the gown.

LABORATORY EXERCISES

MAKING THE NIGHTGOWN (*Continued*)

Textile study: Have several samples of linen, torchon and valenciennes lace edging, and of linen and cotton beadings to examine, and let each girl select the piece she likes best for her gown. State why the piece was selected. From these selections, choose the best pieces to use for the gowns. What is the price per yard of each?

The amount of lace needed for the gown: Measure around the bottom of one sleeve and add to this measure four inches. How much will be needed for the two sleeves? Measure around the neck of the gown and add two inches. How much lace will be needed for the neck and sleeves? Add to this amount four inches which you will use in learning to join lace.

Beading is to be used around the neck of the gown. How much will be needed? Add four inches to this amount. Purchase lace edging and beading so that

it will be ready to use in class for the next lesson. Be sure that the lace comes in one piece, and that it is not pinned together where two ends are joined on the bolt. Continue work on the nightgown.

REVIEW QUESTIONS

1. How is lace edging made? insertion?
2. How is beading made, and for what is it used?
3. State the things you should observe when buying lace edging; when buying insertion; when buying beading.
4. What is a picot?
5. How are small amounts of lace bought? large amounts? In which way will you buy the lace for your nightgown?

DYEING

Cloth is *dyed in the yarn, in the piece,* or is *printed.* Ginghams are an example of *dyed-in-the-yarn* materials, that is, all the yarn to be used in making cloth has been dyed before it was woven. When cloth is made in this way the color is alike on both sides. If the threads in the material are pulled apart, every thread will be found to have the same color throughout its entire length. Materials dyed in this way are much less apt to fade than when dyed in the piece.

A material that is *dyed in the piece* is first woven and then the piece of cloth is dyed. This is the process used in making such materials as calico or percale. Materials that are dyed in this way often fade badly. When threads are pulled from a dark-colored cloth one can often see spaces on the length of thread that are white, or not so dark in color as the rest of the thread. These spots are where the two threads crossed each other in the cloth and where

the dye did not reach the thread; they show that the material was "dyed in the piece."

Either white or colored materials may be "printed" with a design which is stamped on the surface of the cloth. This is done by passing the finished cloth between rollers, one of which stamps the design on the cloth. The design is stamped only on the right side of the cloth. Dimity and lawn are examples of printed materials. Printed materials do not launder well, because the printed design is likely to fade. Sometimes a piece of cloth is dyed in the piece and then printed; as, for example, colored lawns that are figured.

Dark blue calico that has white polka dots is made by first dyeing the piece of material a solid color and then removing the spots with chemicals. The chemicals that are used may weaken the thread in the cloth, and after it is washed several times the spots may become holes because the threads wear out.

All materials that are colored are dyed by one of these methods, whether they are made of cotton, linen, silk, or wool. The dye is taken up by the different fibers in very different ways. Some materials are much harder to dye than others. The textile chemist studies the fibers and the way they will take the dye, and works out the best methods to use.

HOME PROBLEMS AND QUESTIONS

Study the colored cotton samples in your Textile Book and see if you can make a list of six printed materials, two "yarn-dyed" materials and two "dyed-in-the-piece" materials.

LABORATORY EXERCISES

MAKING THE NIGHTGOWN (*Continued*)

To join the ends of lace: Cut a four inch piece off the end of your lace edging. Cut the same from the beading. Divide the lace edging into two pieces. Examine the two ends to be joined. Place the end of one piece over the end of the other piece so that the same parts of the design in the lace are together. Pin them in this position. Cut off the lapped ends of the lace until the lapped part is about one half inch wide. Use a thread without a knot. Begin at the plain edge of the lace and overhand the two edges together; continue overhanding the raw edge of the lace, following the pattern edges carefully; continue across the top of the lap and down the second raw edge. Fasten with two or three stitches, one over the other.

The joining should show just as little as possible, and the stitches used should be very small, but close together so that the lace will not ravel. Always work on the right side.

In joining the beading, follow the directions given for joining the lace edging, and in addition overhand around the inside edge of the lapped openings in the beading.

To sew lace on the nightgown: Overhand the edges of the lace edging and beading together. Do not use a knot in the thread. Find the point where the top of the shoulder strikes the neck of the gown. Begin at this point to sew on the beading. Place the right side of the beading and the right side of the gown together. How can you tell the right side of the beading? Hold the edge of the beading and the edge of the neck together, between the first finger and thumb of the left hand, with the lace next to you. Overhand together, taking small stitches that go through a little of the edge of the cloth and through the small holes in the

edge of the lace. The joining of the lace ends should be done after the lace is sewed on the garment.

In putting the lace on the sleeve, begin at the seam. Hold the lace and cloth over the first finger of the left hand between the thumb and second finger, with the lace on top. Overhand. By holding the edging in this way, it is slightly fulled on the edge of the sleeve.

REVIEW QUESTIONS

1. Name three methods of dyeing materials; explain each.
2. How is printing done? Name some printed cotton materials.
3. How can you tell a "dyed-in-the-yarn" material?
4. Which type of dyeing is best to use for materials that are to be laundered a great deal?
5. Why does white-polka-dotted blue calico wear out?

HOW COTTON MATERIALS ARE ADULTERATED

Cotton is the *cheapest fiber* commonly used in making materials for clothing. It is not so hard to select a good cotton material as it is to select a good wool, silk, or linen material, because cotton is not so apt to be adulterated. When we say a *cloth is adulterated* we mean that the fiber has had some cheaper material combined with it, thus making the cloth less expensive and not so good in quality. The material added is called an *adulteration.* For example, a piece of woolen cloth, sold as an "all-wool" material, in which some cotton is used, would be adulterated, and the adulteration would be the cotton.

Since cotton is the cheapest fiber, cotton cloth is not adulterated, but sometimes cotton textiles are

made of very poor, weak fiber, and the cloth does not wear well. Sometimes the bleaching and dyeing processes used in manufacturing the cloth will be done carelessly, and the chemicals will weaken the fiber so that the cloth does not wear well. In order *to test the strength* of a cotton material try tearing it lengthwise. If it tears very easily it is of poor grade and not suitable for making into garments. Thin materials, such as lawn, will tear more easily than muslin, and in making such a test this point should be remembered.

Another adulteration used in cotton cloth is *weighting*. Weighting is used to make the cloth seem heavier and firmer than it really is. Many kinds of gums, glues, clays and starches are used for this weighting. After a weighted material has been laundered the true quality of the material can be seen, as the weighting is largely washed out of the cloth. By weaving a material loosely, and adding weighting, a cloth of good appearance can be made, and unless one knows about this method of adulteration, the cloth may seem worth buying. By holding a thin cloth up to the light it is often possible to see the weighting between the threads. In a heavier material the weighting makes the cloth feel harsh, and when it is rubbed between the fingers a fine powder will rise from it. If a heavily weighted material is torn, the weighting can easily be seen as it flies from the cloth. Many cotton materials have small amounts of starch used in the finishing, but when a large quantity is added it becomes an adulteration.

Dotted Swiss is a cotton material in which there are dots embroidered with thread. A good quality

of dotted Swiss is expensive. Sometimes dotted Swiss is made with *dots of paste* stuck on the material. When the material is laundered, the dots either disappear or turn a different color from the heat of the iron. If one looks carefully, it is always easy to discover whether the dots are of paste.

Mercerized cotton materials are made from cotton fiber that has been treated with chemicals in such a way that a silky appearance is given to the fiber and to the cloth made from this fiber. Cotton poplin is a mercerized material. Mercerized cotton is stronger than ordinary cotton. The silky gloss does not wash off when the cloth is laundered. Sometimes cotton cloth is starched and pressed until it has a silky appearance, and when so finished is often sold as "mercerized" cotton cloth. This finish comes off in the first laundering. Real mercerized cotton materials are expensive; the imitations may often be found by studying the prices.

LABORATORY EXERCISES

MAKING THE NIGHTGOWN (*Continued*)

Textile study: Have a sample of dotted Swiss to examine. If possible, have one sample finished with paste dots. Test muslin samples for weighting; for strength of material. Have one mercerized cotton material to study.

Continue work on the nightgown.

REVIEW QUESTIONS

1. Which of the commonly used fibers is cheapest?
2. What is an adulteration in cloth? Give an example.
3. What is the adulteration commonly used in cotton materials?

4. Give ways of testing cloth for this adulteration.
5. In what other ways may cotton cloth be made less valuable to use?
6. What is mercerized cotton? How is it imitated?
7. Explain how dotted Swiss is adulterated.

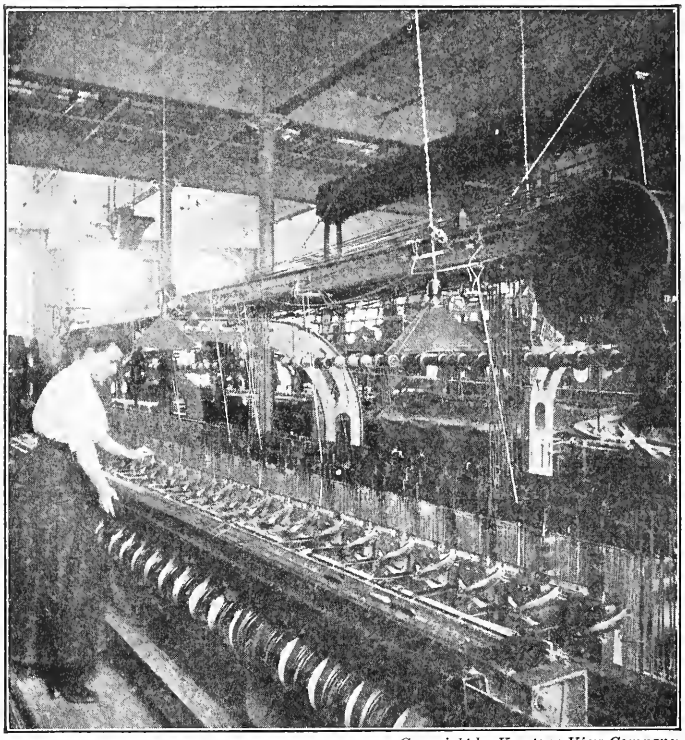
RIBBONS TO USE IN UNDERWEAR

Ribbons of many widths and kinds are to be found in the stores. They are made of *silk, silk and cotton,* or of *artificial silk.* Ribbons are woven on looms. A number of widths of ribbon will be woven, side by side, on the same loom, to save time in manufacture. Ribbons are made in all kinds of designs, and in all colors, and one has a gay assortment to choose from when buying. When finished at the factory, ribbons are wound into round *bolts* with a strip of paper between the layers of ribbon. *Baby ribbon* is sometimes wound on wooden spools. Ribbons may be purchased *by the yard* or *by the bolt.* The number of yards in a bolt varies. Ribbon usually costs less when purchased by the bolt, and when buying a great deal of ribbon to use in underwear it is more economical to buy it in this way.

Ribbon *for underwear* should always be white, or of a very delicate color, such as light pink, or blue. Bright pink, green, yellow, or rose are examples of poor colors to choose. Baby ribbon is the kind commonly used for underwear. It comes in many qualities. Some kinds are sold as "wash" ribbons, which can be laundered. Not all "wash" ribbons launder well, however, and it is always better to remove the ribbon from the beading before laundering a garment. The very cheap baby ribbons are not firmly woven, and when used pull out of shape;

if there is any strain on the ribbon, it may break. Select a ribbon which has a firm edge and holds its shape when pulled lengthwise.

Cotton and *linen tapes* may be used in underwear in place of ribbon. If these are used, they will not



Copyright by Keystone View Company.

RIBBON LOOM WEAVING SILK FOR NECKTIES

have to be removed when the garment is laundered, but they do not give so dainty a finish to the underwear as does the ribbon. They are good to use

when one has little time to spend on the care of clothing. Sometimes *crocheted cords* are made to use in underwear. These are made from cotton crochet-thread.

A *tape-needle* is used in running ribbon or tape through the beading. The eye of the tape-needle is made either lengthwise or crosswise of the needle, and is wide enough to hold narrow widths of ribbon without crushing them.

Sometimes, in elaborate underwear, wider ribbons than baby ribbons are used. If the garment is finished with *casings*, ribbon may be selected which is the width of the casing. Wide beadings, which will hold ribbons of different widths, can be purchased. The ribbon should be *the width* that will pass through the openings in the beading without being crushed.

LABORATORY EXERCISES

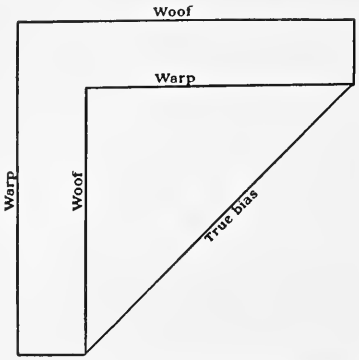
MAKING THE NIGHTGOWN (*Continued*)

Measure the amount of ribbon needed for the nightgown.

Continue work on the nightgown.

Feather-stitching in patterns: This may be used on the fronts of nightgowns, corset-covers, or combination suits. Make some designs on paper that you think would be pretty to use for feather-stitching the front of a nightgown. Try making one of these on a square of long cloth. What kind of floss should you use?

Bias casings: These are used in place of lace and beading on underwear. Use colored dimity and a square of long cloth for making the practice piece. Use the dimity for making the bias strips. *To cut a true bias*, fold over the corner of the cloth so that the woof threads



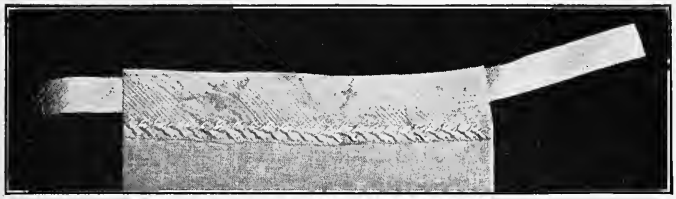
Method of Folding Cloth when Cutting a True Bias

lie parallel with the warp threads; crease. This crease shows the true bias of the cloth. Cut along this crease. From the cut edge, measure at right angles a depth of two inches. Make a dot on the cloth with a pencil. Use a gauge and continue measuring at different points from the cut edge. With a yardstick draw a pencil line across the cloth, connecting the dots. To make a second strip, measure from the line just made, in the same way that you did from the cut edge. Make as many strips as desired. Cut along the pencil lines.

To join two bias strips, place the ends, with the right sides together, so that the warp threads are parallel to each other. Sew a plain seam, being careful to have the edges of the bias band even at the joining when the seam is opened.

Method of Joining Two Bias Strips
And the "join", after seam is completed.

Fold over both of the cut edges of the bias strip one fourth inch on the wrong side of the cloth. When making this fold, do not stretch the material. Sew the bias strip to one edge of the square of long cloth in a plain seam, sewing in the crease in the dimity, and having the right side of the bias strip and the right side of the long cloth together. Baste the other folded edge down over the seam in the same way that



FINISHED CASING WHICH MIGHT BE USED AROUND THE NECK OF A NIGHTGOWN

you did the belt on the apron. Hem, being careful that the stitches do not show on the right side. On the right side of the bias strip, as close to the seam edge as possible, make a row of fine feather-stitching. Run ribbon or tape through the casing.

REVIEW QUESTIONS

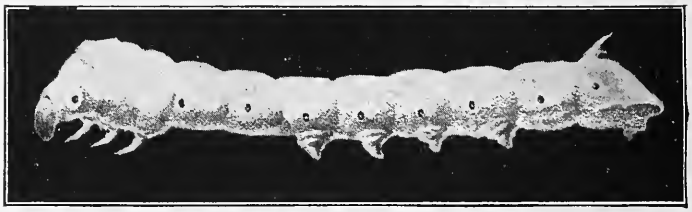
1. From what materials are ribbons made?
2. How are ribbons woven?
3. How is ribbon purchased?
4. What colors are suitable for ribbon in underwear?
5. What may be used in place of ribbons in underwear?
6. What is "wash" ribbon?

HOW SILK MATERIALS ARE MADE

Silk dress materials, ribbons, stockings and underwear are all made from *silk fiber* that comes from the cocoon of the silkworm. *Silk-raising* began hun-

dreds of years ago in China, when an empress discovered how silk cloth could be made from the cocoon of the silkworm. Most of our silk fiber comes at the present time from China, Japan, Italy and France. Little silk is produced in the United States, because labor is much more expensive than in the other countries, and this makes the silk cost more.

The *silkworms* come from eggs that are laid by a moth. The little worm feeds on mulberry leaves and grows very rapidly. When the worm is full grown, it is three inches long. It then begins to

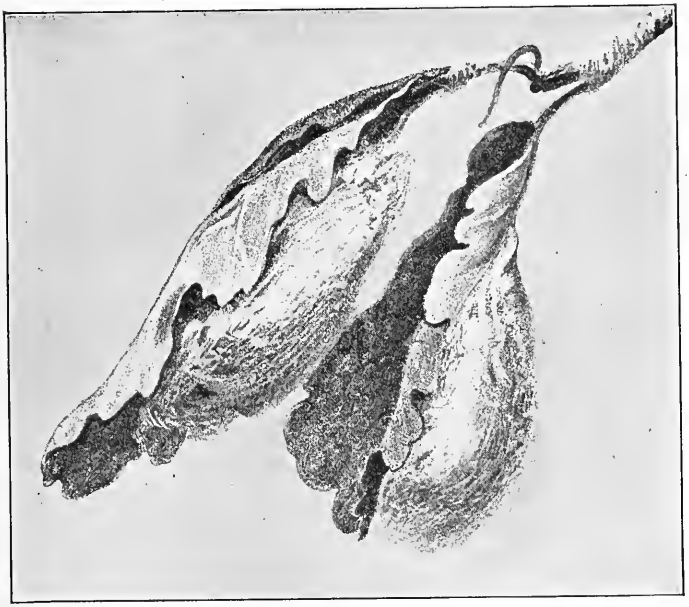


Silkworm

spin its cocoon, which it fastens to twigs. As it moves its head back and forth, it throws out two tiny streams of thick, sticky fluid, one from each side of its head. As the fluid comes into the air it hardens and cements the silk fiber of the cocoon. It takes three days for the worm to complete the cocoon. After the first day the worm cannot be seen, but it can be heard working within.

In order to produce all the raw silk needed, silkworms are grown in nurseries which are specially built for this purpose. Some silk is made from the fiber obtained from the cocoon of the wild silkworm and is called "wild silk."

During the fifteen to twenty days after the silkworm has made its cocoon, it changes from a worm to a moth. This *moth* then moistens the end of the cocoon and breaks its way out. In order to keep the moth from coming through the end of the cocoon and thus *breaking the silk fiber*, the cocoons

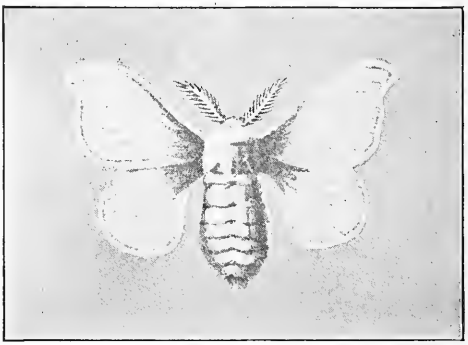


Silk Cocoons

are heated so hot that the moths are killed. A certain number are allowed to come out, however, so that they can lay the eggs to produce a new lot of silkworms.

After this heating process the silk is ready for *reeling*. This is the process of winding the fiber from the cocoon. The cocoons are placed in basins

of hot water to soften the gummy substance on the fiber. Then four or five ends of fiber are started from as many cocoons, and are reeled or wound off together. This must be done very carefully. The silk fiber, as it comes from the cocoon, is 300 to 1400 yards in length, and is very fine and strong. The



Silk Moth

fiber, as it is reeled from the cocoon, is known as "raw silk." The raw silk is made into bales weighing from 100 to 160 pounds, and is then ready to go to the manufacturer.

LABORATORY EXERCISES

MAKING THE NIGHTGOWN (*Continued*)

Continue work on the nightgown.

HOW SILK MATERIALS ARE MADE (*Continued*)

A great quantity of raw silk is brought to the United States to be manufactured into cloth, ribbons and other articles. Most of the *silk factories*

are in New Jersey, Connecticut, New York and Pennsylvania.

When the bales reach the factory in this country the bundles, or hanks of yarn which make up the bale,

Copyright by Keystone View Company.

WEIGHING RAW SILK, JAPAN

are first sent to the throwster. The throwster puts the hanks of silk to soak in order to remove more of the gummy substance from the fiber; then the skeins are placed on reels, and the silk is wound

from the reel on to spools. The spools are then placed in a machine which winds and twists together two or more strands from the spools so that they form one yarn. This yarn is to be used for warp threads on the loom and is called "organzine." The yarn to be used for woof is not so good a quality of silk and is only loosely twisted. It is called "tram."

Silk is *dyed* in the yarn or in the piece. The best grades of silk cloth are dyed in the yarn. In order to dye the silk, the gum must be removed from the fiber. This is done by boiling the silk yarn, after which it is known as *boiled-off silk*. This gum makes up one fourth of the weight of the silk. Some manufacturers, in order to make up this loss in weight, dip the silk in some material, such as chloride of tin, which the yarn absorbs until it often weighs twice or four times as much as the boiled-off silk. This material added to silk is called *weighting*. This weighting causes silk fiber to crack on creases when worn, or to rot and crumble, which often happens to silk garments when they are hung away in closets for long periods. Black silks are weighted more often than the light-colored silks.

In *weaving* silks many beautiful patterns are made by the use of the *Jacquard harness*. This is a device on the loom which controls and regulates the warp threads in the weaving so that the pattern is woven into the cloth. This wonderful machine was invented in 1801 by Joseph Marie Jacquard, a Frenchman.

Sometimes in silks the *patterns* are made by printing, stenciling, or embroidery. *Moiré*, or *watered effects*, are produced on silk cloth or ribbons

by running them through engraved rollers that stamp the cloth.

There are a great many processes that may be used in finishing silk materials. Sometimes fifty or more will be used before the material is ready to be sold as finished cloth.

HOME PROBLEMS AND QUESTIONS

Collect as many silk samples as you can to bring to class. Can you find a piece of ribbon or cloth finished in a moiré pattern? Can you find a printed silk material? Can you find one that has been woven with the Jacquard harness on the loom?

LABORATORY EXERCISES

MAKING THE NIGHTGOWN (*Continued*)

Textile study: Learn to distinguish the following kinds of silk cloth, — chiffon, crêpe de Chine, China silk, pongee, satin, taffeta, velvet. Use samples. Put into your Textile Book samples of as many of these as possible. What is the price per yard of each?

Finish the nightgown: What is the total cost of the nightgown? Make a list showing what each article cost and put this list in your notebook.

REVIEW QUESTIONS

1. Where are most of the silk factories in the United States?
2. What does the throwster do with the silk fiber?
3. What are the warp yarns called? the woof yarns?
4. How do the two differ?
5. How may silk be dyed?
6. What is weighting? What kinds of silk are apt to contain the most weighting?

7. For what is the Jacquard harness used?
8. How is moiré ribbon made?
9. Does silk require much finishing?
10. Which of the silk materials studied would be good to use for dresses? waists? petticoats?
11. When are silk dresses suitably worn?

The Finished Nightgown

TOWELS

It is necessary that a towel should be soft and that it should absorb or take up water quickly. An all-linen towel does this better than a cotton or cotton-and-linen towel. The *all-linen* towels are the most expensive and for this reason are not always used. The material from which towels are made is called *toweling*. It comes in various widths and in different kinds and qualities. A toweling made of part cotton and part linen is called *union toweling*.

There are several kinds of toweling used in making *kitchen towels*. *Glass toweling* is a smooth, lightweight material usually made in checks formed by red or blue lines. It is especially good for wiping china and glass ware. Glass toweling made from linen is the best, but the most expensive.

There are two kinds of *crash toweling* used in the kitchen: (1) the heavy crash toweling that is used for drying cooking utensils, and (2) the finer crash toweling used for hand towels. The heavy crash toweling is rough and uneven on the surface, while the finer grades are smoother. Some crash towelings are woven with a red or blue stripe down the lengthwise edge.

Towels to use for the face and hands are usually made of *huckaback* and *damask toweling*. Huckaback is woven so that the surface of the cloth is rough. A rough surface on a towel makes it absorb moisture more readily. Huckaback toweling is made from cotton, and also from linen. Linen huckaback of good quality is a very beautiful material.

Damask toweling is smooth in finish, and the

designs woven in the material are often very beautiful. It is sometimes made without a design.

Turkish or bath towels are woven in such a way that there are loops over the surface of the cloth, and this gives them a very rough surface.

Towels may be bought ready-made, or the toweling may be purchased by the yard and the towels made at home. Some of the more expensive huckaback and damask towels are woven with finished designs across the ends. *Guest towels* are narrow, short towels, often finished with hemstitched ends, cross-stitching, embroidery or lace.

LABORATORY EXERCISES

MAKING A TOWEL

Textile study: Examine samples of glass toweling and crash toweling. Examine samples of linen huckaback and of cotton huckaback. Which do you think best to use for making a hemstitched towel?

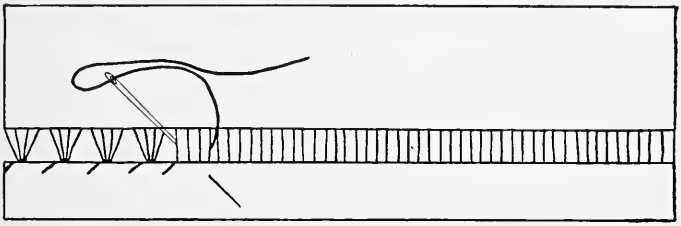
Materials needed for making the towel:

$\frac{3}{4}$ yard huckaback guest toweling.
No. 60 white cotton thread.
Needles.
Cotton floss for cross-stitch.
Canvas for cross-stitching.

Hemstitching practice: Use a piece of heavy, coarsely woven material upon which to practice hemstitching. Straighten the end of the material; measure in $2\frac{1}{4}$ inches from the end on the selvedge; mark with a pin. Pull out four or five of the woof threads, beginning at the point marked by the pin; be careful to pull the same thread all the way across the cloth. Turn under the raw edge one fourth inch toward the wrong side; turn again to make a hem, bringing the first fold even with the edge of the open space made by the drawn

threads; baste the hem very carefully, using one fourth inch basting-stitches.

Knot the thread. Hold the cloth so that the hem is held as for hemming. Hide the knot under the fold of the hem, beginning as you would for plain hemming. Throw the thread up and toward the right, away from the hem. Pass the needle under four of the threads, pointing the needle down and toward the hem; pull the needle through. Again pass the needle under the same group of threads in the same way, but this time, before drawing it through, take up a little of the under



Method of Hemstitching

cloth and also a little of the fold of the hem, making the needle come out between two groups of threads. This ties the group of threads together and also fastens the hem. Continue across practice piece. Fasten the end with two stitches, one over the other.

Double hemstitching is made by hemstitching along the other side opposite the hem. Practice hemstitching until you can do it easily.

REVIEW QUESTIONS

1. What qualities are necessary for a good towel?
2. Which fiber makes the best toweling?
3. What is glass toweling?
4. What other kinds of toweling are often used in the kitchen?
5. Name two kinds of toweling used for face towels. Which is better to use?

6. Why is it not wise to hemstitch all towels?
7. What is the price per yard of linen huckaback? cotton huckaback?

HOW FLAX IS GROWN

Linen is used in making cloth for dresses, waists, suits, table linen, towels, and many other articles. *Linen fiber* comes from the stem of the *flax plant.* The plant is an erect stalk growing twenty to forty inches high, with stems branching near the top. It has narrow, lance-shaped leaves and a tiny blue flower. There are many varieties of flax.

Flax has been grown for at least five thousand years in Egypt. To-day Ireland and Belgium produce the best quality of linen fiber. Russia has produced a large part of the world's supply of linen fiber, but it is of a coarse quality. Flax is also grown in France, Egypt, Italy and Holland. Some flax is grown in the United States and Canada, but it produces a coarse fiber suitable only for making coarse materials.

When flax is to be *used for fiber,* the seed is sown thickly on the ground. This crowding of the plants keeps the main stalks straight and unbroken, and prevents branching. This slender type of plant is the best from which to get the fiber to use in making linen.

Flax is also grown for the seed it produces. *Flaxseed* is used in making linseed oil for paints and varnishes, linoleums and oilcloths. The pressed linseed cake is used as feed for cattle. Flaxseed is also used for poultices and in flaxseed tea. Perhaps you have seen it used in this way.

The flax plant requires great care during its

growth. In Europe this work is done by women and children who weed the tiny plants, going through the fields on their hands and knees. When the flax is ready to harvest, instead of cutting it with a machine as we do wheat or oats, they pull the plants up by hand. The stalks are laid with the roots together and are bound into bundles. These bundles are stacked or hung up to dry.

Harvesting Flax by Hand

When the flax is dried, the next process through which it passes is *rippling*. This is a process in which the seeds and dried leaves are removed from the end of the stalk. When it is done by hand, two men sit, one on each end of a long bench, in the middle of which is a large comb which has teeth about eighteen inches long, placed a short distance apart. The flax is drawn through this comb, and the leaves and seeds drop on a sheet beneath the bench. Machines with revolving cylinders are now used for this work. The flax stalks are

then tied in bundles and are ready for storage or for the next process.

LABORATORY EXERCISES

MAKING THE TOWEL (*Continued*)

Straighten the ends of the toweling. Make a hem an inch wide at each end. How far from the end must the threads be drawn for hemstitching in making a hem this width? Baste hems; hemstitch both ends of towel.

REVIEW QUESTIONS

1. From what plant is linen fiber obtained?
2. Where is flax grown?
3. Which countries produce the best flax fiber? the greatest amount?
4. Did Russia and Belgium produce as much flax as usual in 1915–18? Why?
5. Describe the flax plant; its care during growth.
6. How is flax harvested?
7. What is the first process through which it goes after drying?
8. For what is flaxseed used?

THE MAKING OF LINEN CLOTH

The next process through which the flax goes is called *retting*. This is a very important one and it must be carefully done. Retting is the process by which the outside woody portions of the stem are decomposed or rotted so that they can be removed from the inner part, or flax fiber, which is to be used in making cloth.

Retting is sometimes done by placing the flax fiber on the ground and allowing the dew, the sun and the rain to rot the outer layers of the stalk;

or steam and chemicals are used; or the flax fiber may be placed in running water or in pools, where it is left until the outer layers are rotted. The last process produces the best flax fiber.

The water in the river Lys in Belgium seems especially good for this purpose, and some of the best colored, finest and strongest fiber is produced in this region. The flax bundles are packed into a

RETTING FLAX
Flax ponds being filled.

large wooden crate, lined with burlap to keep the dirt out, and the fiber is covered over the top with fresh straw. The crate is then sunk to a certain depth in the water and weighted down with stones and sod. It takes fourteen or fifteen days for the retting when done in this way, and during this time the odor from the flax is very disagreeable and the water is often poisonous to fish and cattle.

The flax fiber is now put through the processes of *breaking* and *scutching*, during which the outer

woody portions are removed from the fiber and the fiber is divided into *line*, the long fiber, and *tow*, the short pieces that have been broken off during these cleaning processes.

Hackling is a process through which the "line" passes for the purpose of combing, splitting and further separating the fiber into short and long lengths. Other processes follow for cleaning and sorting the fiber, until the linen fiber is at last ready for spinning and weaving. The best materials are made from the "line", while the "tow" is used in cheaper fabrics.

Linen cloth is *bleached* either by the use of chemicals, or by laying it on the grass and allowing the sun and dew to make it white. The last is a slow process, but the linen cloth bleached in this way is always strongest. In Ireland a great deal of linen cloth is bleached in this way.

Colored linen fabrics are made for dresses and suits, but they fade easily in the sun and in laundering. Sometimes it is worth while to have a faded dress or suit re-dyed, since linen cloth of good quality is very strong and should wear well.

HOME PROBLEMS AND QUESTIONS

Collect at home any samples of linen materials which you can find. Perhaps some one has a piece of hand-woven linen which you can borrow to bring to class.

If possible, bring some flax seeds to school. Perhaps these can be planted in the spring, or in a box in the schoolroom, so that you can see how the plant looks when it grows. Have you ever seen flax growing?

LABORATORY EXERCISES

MAKING THE TOWEL (*Continued*)

Textile study: Obtain from some of the linen factories a school exhibit showing the various processes through which the flax goes before it is made into cloth. Compare the cotton fiber and linen fiber. Examine each under the microscope. How do they differ in appearance? Write a story on "How Linen Cloth is Made" to read in class and to put into your Textile Book.

Continue work on the towel.

REVIEW QUESTIONS

1. Explain the process of retting.
2. Name other processes through which flax fiber goes before it is ready for spinning and weaving.
3. What is the "line"? the "tow"? How is each used?
4. How is linen cloth bleached?
5. Does colored linen hold its color well?
6. Why is linen huckaback more expensive than cotton huckaback?

SOME LINEN FABRICS

The *huckaback* used in the towel made in class is one of the linen fabrics that has been studied. *Crash toweling* also is made from linen as well as from cotton. *Russian crash* is a heavy, coarse linen often used for porch cushions and for table-covers or runners. It is an unbleached material which comes in widths from eighteen to thirty-six inches, and varies very much in price.

The best damask for toweling, we have learned, is made from linen. *Damask* is also the name given to the linen material from which tablecloths and napkins are made. Table-linen or damask is made

in many qualities, varying very much in price. It is a beautiful material when made of fine linen fiber and woven in good designs. Table damask of good quality is expensive, but it wears well and is worth buying. Sometimes tablecloths are woven with a border design on each of the four sides of the cloth, and the tablecloth is then called a *pattern cloth.* Table-linen sold by the yard has the border design running only along the sides. *Napkins* are always woven so that each has a finished border design around the four sides, but they are sold, six to twelve, in one long strip and must be cut apart before hemming.

Linen damask is imitated in cotton, and tablecloths sold as *cotton damask* can be purchased at a much cheaper price than the linen damask. Cotton damask does not have the glossy, smooth finish that linen damask has, after it is washed, and stains are much harder to remove than from the linen.

Sheeting, the material from which sheets are made, is sometimes made of linen. Linen sheets are expensive; cotton sheeting is generally used.

The term "*household linen*" means the sheets, pillow-cases, tablecloths, napkins, doilies and towels used in the household. Many of the articles, however, may be made from cotton rather than linen.

Handkerchief linen is a fine sheer linen used for handkerchiefs, dresses and waists. *Linen lawn* and *linen cambric* are other very thin, fine linen materials used for handkerchiefs, dresses and waists. A great many handkerchiefs are now made from cotton, but the cloth looks so much like linen that it is difficult to tell them apart when selecting them in the store.

Dress linens are heavy materials used for dresses and suits. When they are dyed, they are usually in plain colors. Sometimes linen sheeting is used for making white dresses.

When we buy an all-linen material, it is expensive. Many of our cotton materials are finished like linen, but do not wear so well nor retain their finish. It is difficult to tell some cotton materials from linen materials, and the purchaser often buys cloth she thinks is "all linen", only to find later that it is all cotton, or part cotton and part linen. There is no certain way to judge an all-linen material in the store.

HOME PROBLEMS AND QUESTIONS

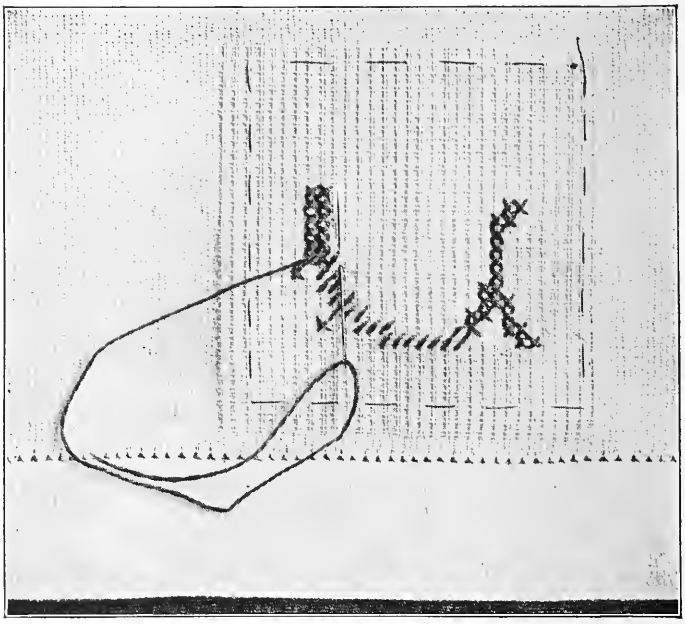
Examine the tablecloths used in the school dining room, or at home. How wide are they? How is the design arranged? What patterns are used? Examine the napkins. Examine a piece of cotton damask and of linen damask used for tablecloths. From among the samples found at home choose the ones for the Textile Book. What is the price by the yard, and the width of each?

LABORATORY EXERCISES

MAKING THE TOWEL (*Continued*)

Cross-stitching initials or a design on the towel: Do you remember the sampler about which we talked in one of the earlier lessons? This sampler was made with cross-stitch. Cross-stitching is made over canvas which has been basted to the cloth upon which the design is to be produced. Patterns for cross-stitch can be pur-

chased. These patterns show the number and arrangement of crosses necessary to use in making the design, and are often printed in the color to be used. The patterns can be purchased in dry-goods stores, at the pattern departments, or at stores handling art needlework supplies. Usually the canvas can be purchased at



Cross-stitching

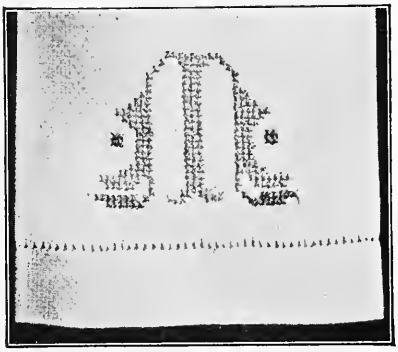
Canvas basted to towel used as guide for stitches.

the latter place. Perhaps you can make a design in the drawing class.

Find the middle of the towel end and baste a piece of canvas, large enough for the design, on the right side of the towel at this middle point, as far from the hemstitching as desired — probably about one inch — so

that the warp threads of the toweling and the warp threads of the canvas are parallel.

The cross-stitch is made by crossing two slanting stitches. Make all the slanting stitches that run in one line and are of the same color, first in one direction and then back, thus making the crosses. Place the needle as illustrated in the drawing. The wrong side must be made as neat as possible by using few knots and by doing the work in rows. When the pattern is completed, remove the bastings and pull out the canvas threads, one at a time. Practice cross-stitching before putting the design on the towel. Cotton embroidery floss that washes well should be selected for cross-stitching the towel. Select a very simple pattern or plain initials for the cross-stitching.



Initial Done in Cross-stitch

REVIEW QUESTIONS

1. Name three linen materials used for toweling.
2. Name three linen materials used for handkerchiefs.
3. Name linen materials used for waists; for dresses.
4. From what materials are tablecloths made?
5. How are napkins purchased when they are to be hemmed at home?
6. What is sheeting? What kinds may be bought?
7. In what ways may towel ends be decorated?
8. Is it wise to put cross-stitch on "everyday" towels? Why?

WOOL — WHERE IT COMES FROM

Many of the garments worn in winter are made from wool, which is an animal fiber. A large part of our *wool fiber* comes from sheep. Some wool comes from the camel, the angora goat, the llama and the alpaca. In the United States, sheep are raised in great numbers in the Western States. Montana, Oregon, Idaho and Wyoming are the principal sheep-raising States. England, Australia, Canada, South America and parts of Africa, Spain and Germany also produce wool.

The sheep are sheared in April or May. By this process the wool is clipped from the body of the sheep and removed in one piece which is called the *fleece*. The *shearing* may be done by hand with large shears made for the purpose, or machine clippers may be used when there are large numbers of sheep to shear. The fleeces are tied into bundles. When many fleeces are sent to market from one farm, or ranch, they are put into sacks which hold about 400 pounds each.

Wool fiber varies from $2\frac{1}{2}$ to $10\frac{1}{2}$ inches in length. *Merino wool* is the finest. Sheep which are well cared for and properly fed produce the best wool.

If you examine a wool fiber under the microscope, you will find the outside of the fiber covered with tiny scales, or *serrations*. These serrations lap over each other in much the same way as do the outside layers of a pine cone. When heat and moisture are applied to the wool fiber, the serrations soften, and if pressure is used they are locked together. This locking together is known as the *felting property* of wool, and because wool has this property it is

possible to make from it a good yarn and cloth of close, firm texture.

Besides the making of clothing, wool is used in making carpets, rugs, underwear, stockings, blankets and knitting yarns which are used for shawls, sweaters, caps and mittens.

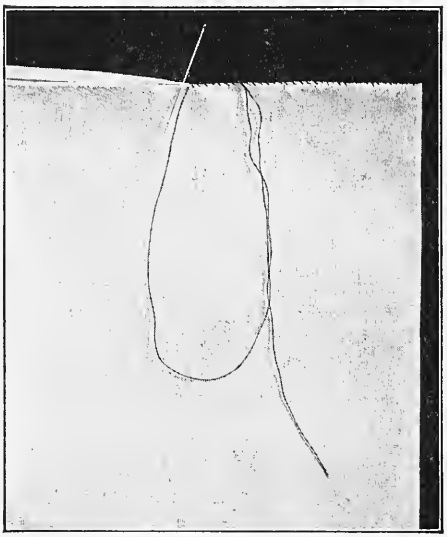
Wool is often *adulterated* by adding cotton fiber. If cloth is made of cotton and wool fiber, it should be sold as a cotton and wool fabric, and not as "all wool." Because there is not enough wool produced each year to furnish all that is needed, the new wool fiber is mixed, in many cases, with *shoddy, mungo* and *extracts*. These materials are the fibers obtained from old wool cloth, knitted wool underwear, and wool stockings which have worn out. When old wool rags are sold to the junk dealer he, in turn, sells many of them to the manufacturers of wool yarns. *Flocks* and *noils* are short waste fibers left from the spinning and finishing processes, and these are sometimes added to wool yarn.

LABORATORY EXERCISES

MAKING THE UNDERSLIP

Look in the pattern book and find a two-piece underslip pattern. How is the size of the pattern stated? Of what materials could the slip be made? How much material thirty-six inches wide does the description of the pattern say will be needed? Measure from the top of your shoulder, next to the neck, down to the bottom of your dress; add four inches to the measurement; multiply this last measurement by two. This will give you the number of inches needed for the slip. How many yards will be needed? Is this the same amount stated in the pattern description as being needed?

If the ruffle is to be made of the same material as the slip, more material will be needed. Ruffles for underwear are made from crosswise strips of material. In order to know the amount needed, one must know: (1) how wide the ruffle is to be, (2) how wide the hem on the ruffle is to be, (3) how wide the seam is to be, (4) whether any tucks are to be used, and if so (5) what size they are to be, and (6) how wide the slip is around the bottom. The length of the ruffle should be about one and one half times the width around the bottom of the slip.



Method of Making a French Hem

Work out the following problem, using a piece of paper upon which to practice. A ruffle is to be put on a slip that is two yards around the bottom; the hem on the ruffle is to be one inch wide; there are to be three tucks, each one half inch wide, finished; one fourth inch is to be the width of the seam where the ruffle is gathered; the ruffle, when finished, is to be six inches wide.

Materials to be brought to class next time:

Two-piece pattern for underslip.
Long cloth — amount required without ruffle.
Thread — Nos. 80 and 90.
Needles.

To make a French hem: Napkins, tablecloths and sometimes towels, are finished with a French hem. This is made in the following way. Fold a plain hem one fourth inch or less in width; baste; turn the right side of the hem back against the right side of the material above the hem; make a crease in the cloth that comes just even with the fold of the hem; overhand along this crease, running the needle through the creased cloth and the fold of the hem, making small stitches close together. When the overhanding is finished, press out the crease, making the hem lie in the same position as a plain hem. Practice making the French hem at school.

At home, hem a napkin or towel, which should be brought to school for inspection when finished.

REVIEW QUESTIONS

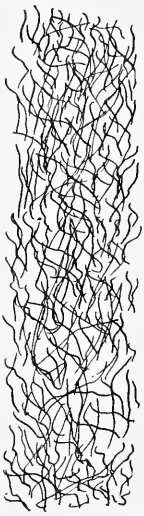
1. Where is wool fiber obtained?
2. Where is the greatest wool-producing section in the United States?
3. What is the "fleece"?
4. What is meant by the "felting property" of wool?
5. In what ways is wool used?
6. In what way is wool adulterated?
7. What is shoddy? How and why is it used?

HOW CLOTH IS MADE FROM WOOL

When the wool reaches the woolen mill, it is unpacked and sorted. The wool is dirty and greasy, and one fleece contains fiber of several lengths. The oil in the fiber is known as the *yolk*. If you have ever put your hand on the back of a sheep, you know how oily the wool feels. This oil protects the fiber and keeps it soft and elastic. The wool from the head, sides and back of the sheep is finer in quality than that from the belly or shins. The

fleece is usually separated into six or seven grades for spinning yarns of different qualities.

The wool is now ready to be washed, or *scoured,* and this must be done very carefully with soft, warm — not hot — water and soft soap. The wool passes through a series of tanks during this process, and in each tank is pushed back and forth by means of wooden forks which carry it forward.



Construction of Woolen Yarns

The wool fiber is next *dried* in a machine called a "hydro-extractor", and is then beaten into a fluffy mass. All of the oil has been removed during the scouring, but in order to make the wool soft and elastic and better for spinning, olive oil is added to the fiber.

The wool may be cleaned still further by the use of a machine called a *burr-picker,* which takes out any burrs, leaves, or other dirt which the sheep have picked up in the pasture and which did not come out in the scouring.

Construction of Worsted Yarns

There are *two kinds of yarn* made from wool fiber: (1) *worsted* and (2) *woolen.* Worsted yarn is made from wool that has been combed until all the fibers lie parallel before they are twisted into yarn. Worsted yarns are stronger than woolen

yarns. They are made from long fiber, the short fiber being removed in combing. Worsted yarn is the more expensive, and is used in making high-grade worsted materials and underwear. Woolen yarn is made from the short fibers, so treated that the fibers are running in every direction when the yarn is ready for weaving. Woolen yarn is more "fuzzy" than worsted yarn. Worsted yarns are used for making materials that are to show the weave very plainly, as in serge, while woolen yarns are used to make cloth with a fuzzy surface, the weave of which does not show distinctly, as in broadcloth.

Wool is *dyed* either in the yarn or in the piece. It dyes very easily. Printed designs and elaborate Jacquard designs are not used so often as in silk and cotton materials.

Wool cloth goes through various *finishing processes*, depending upon the kind of material being made. One of the most interesting of these is *napping*, which is used in making such materials as blankets. This is done by passing the cloth between rollers covered with teasels. The sharp points on the teasel pull up the fiber ends on the surface of the cloth and make a heavy nap. Sometimes this nap is clipped until it is even and shortened. The *short fiber* clipped from the surface is sometimes felted into the back of a poor quality of woolen cloth to make it appear heavier. These short ends often work out as the garment made from such cloth is worn, and sometimes are found in the bottom of pockets, along seams or hems, or between the lining and wool material of a coat. Dress, coat and suit materials of wool must be pressed and wound into bolts to make them ready for the market.

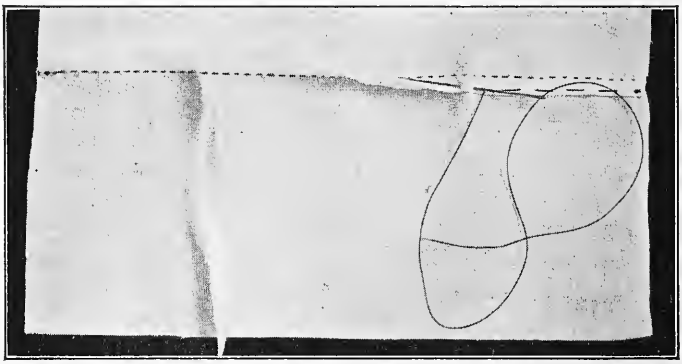
HOME PROBLEMS AND QUESTIONS

Collect as many wool samples as you can to bring to school. Has any one some wool she can bring to school? If the teacher will get a wool exhibit from some of the manufacturing firms, it will be interesting to study.

LABORATORY EXERCISES

MAKING THE UNDERSLIP (*Continued*)

Read the directions on your pattern. Open the pattern and measure the length to find if it needs changing. Lengthen or shorten it in the same way that you did the nightgown. Follow directions for cutting given on the pattern. Make narrow French seams down the sides, sewing on the machine. Use felled seams on the shoulders.



THE CONSTRUCTION OF A FELLED SEAM

To make a felled seam: Make a plain seam one fourth inch wide, but do not overcast the edge. Cut off one side of the seam one eighth inch. Fold the wide side down one eighth inch and over the narrow side of the seam. Lay both sides of the seam flat on the cloth

with the narrow side under the wider side. Baste to the cloth. This seam may either be hemmed by hand along the fold, or it may be stitched by machine. In making the underslip, hem it down by hand, as it will look daintier and show less. Felled seams are used in making corset-covers, drawers, some kinds of petticoats, and men's shirts.

REVIEW QUESTIONS

1. What is the first process through which the wool goes after it reaches the woolen mill?
2. Of what value is the "yolk" in wool?
3. Explain the process of "scouring."
4. Through what other processes may wool fiber go before it is spun?
5. What kinds of yarn are used in making wool materials?
6. Give the process for making each kind.
7. For what types of material are the different kinds of yarn used?
8. How is wool material dyed?
9. Explain the process of "napping."
10. What is the "fuzz" often found in hems and along seams of wool dresses and coats?

WOOL MATERIALS COMMONLY USED

There are so many kinds of wool cloth that it would be impossible for us to learn the names and to know all of them in one lesson. Wool materials of the best grades are expensive, and the price will indicate something in regard to the quality. There are always a large number of standard wool materials on the market, and in addition many novelty materials appear each year. A *novelty material* is one that is made for only one or two seasons, and while the design or weave is unusual, the price is high and often the quality is poor. It is not a wise plan

to buy novelty materials if one is trying to select a material that will wear well for a long period without going out of style.

Serge is one of the commonly used wool materials. There are many types of serge on the market. Serge is made of worsted yarn in a twilled weave. It comes in plain colors, dark blue being one of the favorite colors. It is used for making suits, skirts and dresses. It is forty-two to fifty-four inches wide, and varies much in price.

Cheviot is somewhat like serge. It is heavier and sometimes rougher in finish. It is used for suits and coats. Some cheviots are called " diagonals."

Tweed and *homespun* are two materials used for suits and coats. Both were originally made by hand, but now are made by machinery. In some sections of the Southern States homespun cloth is still made by the mountain people. Homespun is a loose, rough material made of coarse yarn. Tweed was first made in Tweed, Scotland. It is a rough, loosely woven cloth that is usually woven of several shades of yarn, giving a mixed effect with no distinct pattern.

Broadcloth is made from woolen yarns. It is a beautifully finished material, soft and smooth, with a glossy finish on one side. It is used for suits and dresses. Broadcloth of a good quality is very expensive. *Ladies' cloth* is much like broadcloth, but is not so heavy. It is used for suits and dresses.

Alpaca, *mohair* and *brilliantine* are three fabrics somewhat alike. They are all very smooth, and are finished with a glossy surface that sheds dust well. Fiber from the llama is used in making alpaca. Mohair and brilliantine are made of fiber from the

Angora goat. All three of these materials are used for dresses and dust coats, and sometimes for men's suits. All three of the materials are mixtures of cotton and wool.

Albatross, cashmere, challie and *Henrietta* are light-weight materials used for dresses, wrappers and babies' clothes. Challie is often used for girls' dresses. It is made in flowered or figured design, the design being printed or woven into the cloth. Henrietta and cashmere are made in twilled weave and are much alike.

Flannel is a soft, napped material used for babies' clothes, petticoats, dressing-jackets, shirts, and for many other purposes. It is a material every girl should be able to distinguish.

Melton and *covert cloth* are used in making overcoats. They are heavy, firmly woven materials.

HOME PROBLEMS AND QUESTIONS

Find the price by the yard of the following: serge, broadcloth, cheviot, flannel, and of any of the other materials mentioned in the lesson.

How are blankets purchased? What do they cost?

Examine the rugs at home to see whether the face of the carpet is like the back in any of them. Can you find out the names of some carpets used at home? How is rag carpet made?

LABORATORY EXERCISES

MAKING THE UNDERSLIP (*Continued*)

Textile study: Examine samples of materials studied in lesson. Mount samples in Textile Book. Make one

inch of twill weaving on your textile weaving-card. This is done in the following way. First row, under three threads and over three threads, under three and over three, across the row. The second row is begun by bringing up the needle one thread farther to the right than in the group over which the needle passed in the first row; then continue over three and under three, etc. Third row: the needle should be brought up one thread farther to the right than in the group over which the needle passed in the second row, then continue over three and under three, etc. This weaving forms a diagonal line of stitches that go over the warp threads. Can you find the diagonal in cheviot or serge?

Continue work on the slip.

REVIEW QUESTIONS

1. Name three materials for men's suits.
2. Name four light-weight materials used for dresses.
3. Name two materials suitable for dust coats.
4. Name two materials used for men's overcoats.
5. What is the difference between cheviot and serge? between broadcloth and ladies' cloth?
6. How is flannel used?
7. What is a standard material? a novelty material?
8. Is it wise to buy novelty materials? Why?

EMBROIDERY TO USE ON UNDERWEAR

All embroidery on cloth was originally done by hand. Now only a small part of the embroidery used is hand-made, as we have machines that can imitate hand embroidery on cloth. Perhaps you know some one who has a piece of old hand-made embroidery that you can examine. The stitches are beautifully made, and some of them are very

tiny. This kind of sewing was very slow work, and if all the embroidery were done by hand to-day we could not use it as freely as we do on underwear, dresses and waists. When we have time, beautiful garments can be made by decorating them with hand embroidery, provided the design is well selected and the work neatly and evenly done.

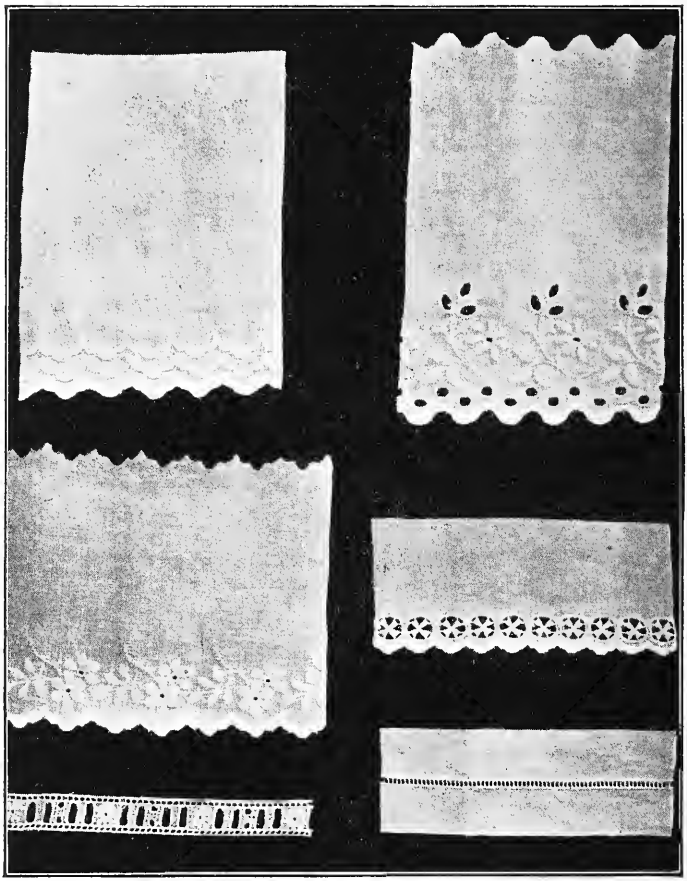
Machine-made cotton embroideries are made on cambric, batiste, nainsook and Swiss. Cambric and nainsook embroideries are generally used for underwear, because the material on which the embroidery is made is the same in weight as the cloth from which the garment is made. Swiss and batiste embroideries are used in trimming dresses and waists that are made of such materials as organdie, Swiss, batiste, lawn, or dimity.

The term embroidery includes embroidery edging, insertion and beading. *Entre deux* is a very narrow insertion called "seam beading" because it is used between the two edges of cloth that are to form the seam. This is made in the same materials as embroidery edging, and also in voile.

Embroidery edging is usually finished with one edge in embroidered scallops, and the other a raw edge. Sometimes the finished edge is made with a machine-hemstitched hem instead of the scallops.

In selecting an embroidery edging, one should look at the edge of the scallops to see whether they are well finished. Several strips of embroidery edging are woven on one piece of cloth, and when finished the strips are cut apart and are also cut along the edge of the scallops. Sometimes the thread that finishes the edge of the scallops is broken or cut; in this case the edge will be apt to fray out

after the embroidery is laundered. Always select an edging with a firm uncut scallop.



Good Types of Embroideries

Either insertions or edgings that are made with openwork designs in which heavy parts of the

pattern are held together with fine thread are not best to select when one wishes the embroidery to wear well. Embroidery made in simple designs, instead of very elaborate or poorly constructed designs is always the better selection. Cheap embroidery spoils the appearance of a garment and lessens its value because it will very soon become shabby in appearance. If one cannot afford to buy good embroidery, it is better to use none at all, and to finish the garment in some other way.

Insertion is usually sold with a strip of the cloth left on each side of the insertion. Sometimes the edges are both finished with a scallop such as is used on the edging.

Beadings are sold with a strip of the cloth down each side of the beading. They come in various widths.

Embroidered material used in making waists and yokes comes in widths like cloth, and is called *all-over*. Embroidery flouncings are wide embroidery edgings, often wide enough to make the length of a petticoat or dress skirt.

HOME PROBLEMS AND QUESTIONS

Find any samples of embroidery that you can to bring to school. Get prices of as many as possible.

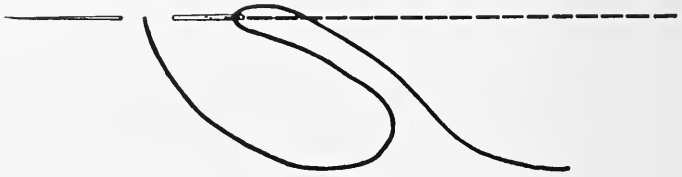
LABORATORY EXERCISES

MAKING THE UNDERSLIP (*Continued*)

Textile study: Examine samples of embroidery. Which kinds are good to use with long cloth? Which are of the best design? Why? Examine the scalloped edge. Mount samples in Textile Book. Look in the encyclo-

pedia and see what you can find about hand-made embroidery. Write a story on this subject to read at school.

To make the placket in the underslip: There are several kinds of plackets that may be used for the slip and on petticoats. One of them is the *hemmed placket*. Down



BACK-STITCHING

one side of the placket make a one fourth inch hem, running the hem to a point at the bottom of the placket. Down the other side make a hem three fourths inch wide, running it down straight. Lap the wide hem over the narrow hem and make two rows of back-stitching across the bottom on the right side and through

PLACKET

Method of making the continuous placket — bound and faced.

both hems. A hemmed placket cannot be used if the slip is exactly the right width across the back. Why not?

Back-stitching is made by taking one running-stitch over and one under the cloth; then bring the needle back and put it in the hole made by the end of the first stitch, and bring it out the distance of one stitch beyond the end of the second stitch. Pull the thread through. Bring the needle back and put it in the hole made by the end of the second stitch; then bring it out the distance of one stitch beyond the end of the third stitch and pull the thread through. Repeat until the work is completed. Always work on the right side of the material. Why? Back-stitching on the right side looks like machine-stitching.

The Finished Placket

Another placket which may be used is the *continuous placket*, bound and faced. Cut a length-wise strip of material twice the length of the placket and twice the desired width, allowing for seams. Place right side of facing to right side of garment. Baste in a very narrow seam, about one fourth inch down and up the sides of the placket. At the bottom of the placket run the seam to a point, making it as narrow as it will hold. Stitch seam, remove bastings. Turn under the other edge of facing one fourth inch. On the side of the placket to be used for the buttons baste this folded edge along

the line of stitching, so that the raw edge of the seam is inside. The part of the facing that is to be used for the buttonholes should have the under part cut out, as in the picture. Then baste this side of the facing flat to the garment. Hem the entire length of the placket by hand. Lap the top of the placket over the bottom; baste across the lower end of placket, and stitch across the end as shown in the picture.

Practice making the plackets. Make one of the plackets on the slip, making the placket-opening of the length indicated by the pattern.

Estimate the amount of embroidery edging needed for the bottom of the slip. Buy edging, four inches, or not more than six inches wide.

REVIEW QUESTIONS

1. How is embroidery made?
2. What kinds of embroidery are suitable for underwear? for thin dresses and waists?
3. What points should be noticed in buying embroidery edging?
4. What is *entre deux?*
5. How is insertion used on a garment?
6. What is embroidery flouncing?
7. If embroidery edging were not used, how could the slip be finished around the bottom?

KNITTED UNDERWEAR AND STOCKINGS

Knitted underwear and stockings are made on special machines which loop the threads together instead of weaving them. The knitting may be *plain* or *ribbed,* or both kinds may be used in one garment. In using both kinds, one must take the garment from one machine, in which plain knitting is done, and put it into another to do the ribbing.

The ends of sleeves and the legs of drawers in underwear are often finished in this way.

Knitted goods *ravel out* badly when a stitch in the garment is broken, and for this reason stockings and underwear should be mended as soon as the break appears and before it has raveled and become a large hole.

Stockings are made in different ways. The *cheapest stockings* are made by knitting one long tube and cutting it into desired lengths, after which the heel and toe are sewed and the stocking is shrunk into shape. The *best stockings* are knitted in a flat piece, shaped exactly as desired for the stocking, and the shaped piece is sewed together on sewing-machines made for the purpose. This seam runs down the leg of the stocking and along the bottom of the foot to the toe. This stocking is called "*full-fashioned.*" Stockings are made of cotton, wool, silk, or lisle, which is an especially prepared cotton thread. Cotton and lisle stockings are most commonly worn; silk are the most expensive and not suitable for hard usage. Wool stockings are sometimes worn in winter.

Some stockings are made from artificial silk which is a manufactured product made in several ways and is used to imitate true silk. The best grades of artificial silk stockings wear better than the poor or medium grades made of true silk, and cost much less. Artificial silk is also used in making dress materials, sweaters, neckties, ribbons and dress trimmings. It can usually be distinguished by its high luster.

The usual kinds of *underwear* are made of cotton, wool and silk, or of combinations of cotton and wool, or of silk and wool. Knitted underwear, to be warm,

must be loosely woven. The open mesh of the weave holds air in the material and makes the garment a warmer one because the heat from the body does not pass so easily through this still air. The loosely woven material also permits plenty of air to remain next the skin. Two loosely woven garments, one over the other, keep the body warmer than one very heavy, tightly woven garment, because of the air space between them.

Knitted underwear absorbs the moisture given off by the body and must be made of material that will take up and give off the moisture quickly. Wool takes up the moisture quickly. Cotton knitted underwear is often loosely woven and so treated that it absorbs readily.

Any garment worn next to the skin must be laundered often to remove the secretions and dirt given off from the body. A dirty garment loses its power to absorb, and when moisture is left next the skin it makes the skin feel cold and uncomfortable.

Wool is warm, but many people find it irritating to the skin. Wool is hard to launder because it is apt to shrink and become harsh when the washing is carelessly done. A wool and silk combination is excellent for winter underwear, but it is very expensive. Cotton is often used for knitted underwear, and while it is not so warm as wool it is much liked by many people, and is much easier than wool to launder.

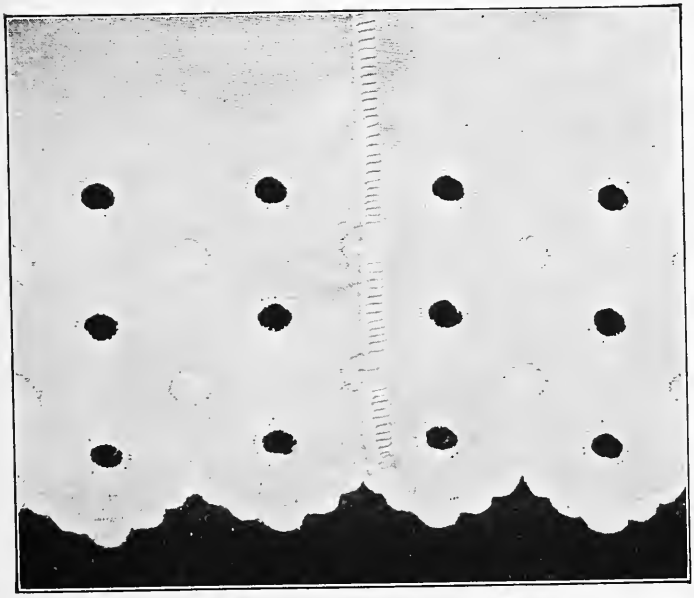
The kind of underwear worn depends on the climate, health, occupation and age. In houses kept at summer temperature in winter, it is unwise to wear underwear that is too warm. It is better to wear warmer wraps when going out of doors than to keep the body too warm while in the house. The

union suit is a garment that covers the body evenly all over, which is perhaps better for many people than to wear the drawers and shirt which make a double thickness over the abdomen.

At night always hang up the underwear so that it can air thoroughly. Never sleep in underwear worn during the day.

HOME PROBLEMS AND QUESTIONS

Can you find out the price of the stockings you are wearing? Of what are they made? Are they ribbed or plain? Find a full-fashioned stocking and bring it to school. What does a winter union



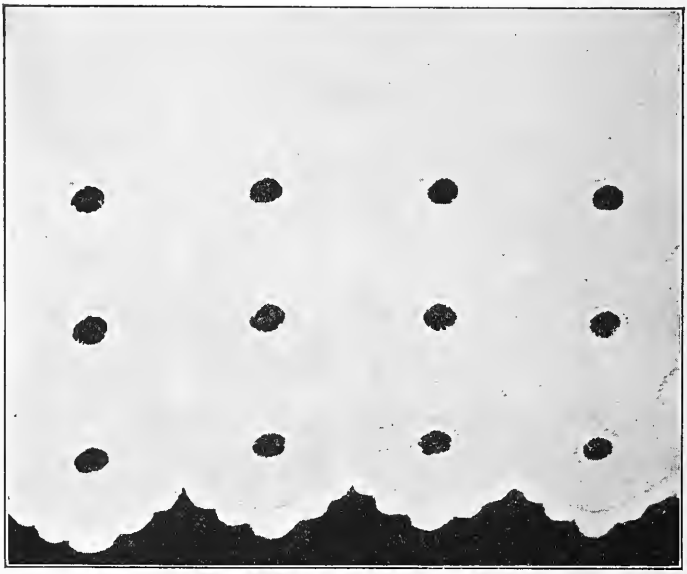
Method of Joining Embroidery

suit cost? Of what is it made? What is the price of cotton stockings? of silk stockings?

LABORATORY EXERCISES

MAKING THE UNDERSLIP (*Continued*)

To join embroidery: Match the pattern in the ends of the embroidery, either between the scallops or through the middle of a scallop. Sew in a plain seam. Buttonhole along the raw edges instead of overcasting. Find



THE RIGHT SIDE OF THE "JOIN"

the middle of the length of the ruffle, measuring from the seams, and mark with a pin. Begin at the seam and gather to the pin. Gather the other half on another thread. Follow the directions for gathering which were given for the apron.

REVIEW QUESTIONS

1. How is knitted underwear made?
2. How are cheap stockings made?
3. How are full-fashioned stockings made?
4. Of what materials is knitted underwear made?
5. How should we decide upon the kind of underwear to use?
6. Why must underwear be changed often?
7. How should underwear be cared for at night?
8. Can you name any other knitted articles made by machine?

THE COST OF CLOTHING

Have you ever thought about the cost of the clothing you wear, and also about how much money is required each year to buy it? Perhaps you have gone shopping with your mother and have learned the price of some garments. Every family has to spend money every year for clothing, but the amount spent varies with the size of the family, the needs of the family, the amount of the income, and the judgment of the person spending the money. Every one must have a place to live, food to eat and clothing to wear. In addition, there must be money to spend for schoolbooks, music lessons, carfare, coal and many other necessities. Besides this, some money should be saved every year.

The wise home-maker, therefore, makes a plan for spending the money available each year, or the *income*, as it is called. This plan will show how much is to be spent for food, for clothing, for shelter, for running or operating expenses, and for entertainment, education, church, charity and savings. When such a plan is made, it is called a *budget*.

In order to know just how much money is actually spent each month, and during the entire year, a record of expenditures is kept, and this record is called a *household account.* At the end of the year, by checking up this household account, one can find whether more or less money has been spent for each division than the amount planned in the budget.

Many persons spend *more money for clothing than is necessary* because they do not buy wisely; they select materials and garments that do not wear well, that fade, that are not suitable for the purpose, or that do not launder well. Persons who are careless about the care of their clothing spend more money than those who keep their clothing repaired, pressed and clean. Every girl should remember that her clothing is expensive, and should consider it her duty to take as good care of it as possible.

In order to realize the *cost of clothing,* it would be well for each girl to keep an account of the money spent for her clothing each year, even though she does not buy it herself. Such an account will be begun in the "Clothing Book." Perhaps each member of the class will continue keeping it, so that when she begins buying her own clothing she will know the usual price of each article.

The *buying of "fads"*, exaggerated styles, or novelty materials is not wise when clothing must be worn for very long periods. Fads in clothing go out of fashion quickly and must be discarded. The better plan is to select standard materials of good quality and then have the garments made in such a way that they may be worn two or even three years without being out of fashion.

Ready-made garments often cost more and wear a shorter period than do garments made at home. Sometimes, however, it is a wise plan to buy ready-made clothing, especially when one is busy and when energy and strength must be saved for the daily work.

HOME PROBLEMS AND QUESTIONS

Make a list of all the articles of clothing you have. Ask your mother to tell you the price paid for each article, if possible. Which garments, if any, are to be worn more than one year? What is the total amount spent for your clothing?

LABORATORY EXERCISES

MAKING THE UNDERSLIP (*Continued*)

Textile study: Make a booklet consisting of several sheets of plain white paper with a cover of brown or other colored paper. Decorate this cover in any way you wish, making the title "The Clothing Book." When you have completed your list of clothing with the costs, put the items in the book in this manner:

Shoes	
1 pr. high shoes for school	$ 5.00
1 pr. best shoes	5.00
1 pr. pumps	4.00
1 pr. rubbers	1.00
Hats	
1 school hat	3.50
1 best winter hat	5.00
1 best summer hat	5.00
1 sun hat	1.00

Dresses

1 gingham dress (made at home) . . .	$ 3.00
1 percale dress (made at home) . . .	2.00
1 serge dress (ready-made)	12.00

Continue until the list is complete.

To finish the bottom of the slip: Try on the slip and straighten the lower edge by marking an even distance from the floor around the bottom of the slip, using a yard-stick to measure up from the floor. After taking off the slip, trim off around the bottom by following the marks. Make a hem two inches wide. In basting down the hem on the curve, it may be necessary to lay some tiny pleats; do this by straightening out the folded edge, making the pleat, and then folding down the edge across this pleat. Stitch the hem by machine, thus finishing the bottom of the slip.

STRAIGHTENING THE BOTTOM OF THE UNDERSLIP

To put on the ruffle: The ruffle is to be put on with a tuck. Measure up from the bottom of the hem on the slip the width of the ruffle; mark with a pin; three eighths inch above this pin make a second marking. Measure from this second mark to the bottom of the

hem; what is the length of this measurement? Measure up this distance from the bottom of the hem on the slip; mark with a pin; measure up from the bottom of the hem every four or five inches, so that you have a row of pins around the slip. Make a fold along these pins, folding so that the crease is on the right side of the slip; baste; three eighths inch from the fold just made, stitch on the machine around the slip so that a

Method of Putting Ruffle on with a Tuck

tuck will be formed when the work is finished. Use the gauge on the machine when making this tuck. Remove bastings.

Place the seam in the ruffle at the middle of the back of the slip so that the bottom of the ruffle is even with the bottom of the slip, with the raw edge at the top under the tuck; pin; the point where the two gathering threads meet in the ruffle should be pinned to the middle of the front of the slip and under the tuck. Pull the gathering into place and fasten. How will you do this? Pin the ruffle to the slip at several places around the slip, being sure to divide the gathers evenly. Baste with one-fourth-inch stitches along the gathers, keeping the line of stitching straight.

Bring the tuck down over the raw edge of the ruffle so that the fold of the tuck just covers the gathers;

baste with one-fourth-inch stitches just a little above the fold of the tuck and through the tuck, ruffle and slip. Stitch by machine along the fold of the tuck.

REVIEW QUESTIONS

1. What is a budget? a household account?
2. Why are both useful to the home-maker?
3. Why should girls keep an account of the cost of their clothing?
4. Why do persons often spend more for clothing than they should?
5. What is a "fad"? Should most people buy fads? Why?
6. How may clothing be made to wear a long time?
7. When may ready-made garments be wisely bought?

THE CARE OF CLOTHING

The length of time a garment may be worn can be very much increased by proper care. *Good care* of clothing *requires* that some thought and energy shall be used every day, but since a well-cared-for garment wears longer and always looks better, the effort is worth while.

When garments are taken off they should be *well aired* before they are put away. Hang waists over chair-backs, and petticoats, underwear and stockings over chairs at night, so that they are well aired by morning. Never throw down in a heap clothing that is to be worn again, because crumpled clothing does not look well.

When garments are to be put away they should be so arranged that they will be *wrinkled as little as possible*. Coats and dresses should be kept on hangers. Skirts may be kept on hangers, or may be hung up by two loops of tape, one on each side of the

skirt at the band. The loops should be hung over hooks arranged at such a distance apart that the band hangs straight. Waists should be folded straight and laid in drawers or boxes. Do not pack too many waists in one drawer, as this is apt to crush and wrinkle them. *Cover-bags* may be used over dresses or coats that are not often worn. These bags will protect the garments from dust and dirt of various kinds. A cover-bag is described in the section on Christmas Gifts.

Wool clothing should be brushed often, and *spots* should be removed as soon as possible after they are discovered.

Cotton and linen clothing must be washed carefully. The *color* should be "set" in a material before it is laundered the first time. Salt, vinegar and sugar of lead are materials used for setting colors. Perhaps you can find the method of doing this in some of the bulletins or books in the library. Colored materials should not be hung in the sun to dry.

Wool skirts, coats and suits should be *pressed* often enough to keep them fresh in appearance. A wrinkled skirt, with the pleats out of shape, can never look well, and the person wearing such a garment is not well dressed. In pressing wool, if the material is pressed on the right side, a cloth is always used between the material and the iron. The cloth is usually dampened and placed over the material, and the cloth is pressed until it is dry. The pressing may be continued on the wrong side. Much practice is necessary before pressing can be done well. Garments may be sent to pressing and cleansing establishments to be pressed, but this is

expensive, and many garments can be pressed at home and look well if the work is carefully done.

Hooks and eyes, snap fasteners and *buttons* should always be sewed on as soon as they come off the garment. A skirt or waist that is pinned together looks very untidy, and an untidy person is never a well dressed person.

Stockings should be mended neatly and never worn with holes in them. Garments that need *patching* should be mended carefully, and before they are laundered, if possible.

Hats should be brushed with a soft brush to remove the dust, and when worn only occasionally should be kept in a box or drawer away from dust.

Shoes that are kept clean and polished wear longer and look neater. When *heels* become worn and uneven the shoes should be taken to the repair shop to have the heels straightened, for "run-down" heels look very untidy. *Shoe laces* should not be used after they are broken. Knots in the laces spoil the appearance of the shoes. *Shoe buttons* should always be replaced as soon as they come off. *Rubbers* that are muddy should be washed before being worn again.

Every girl wishes to look well dressed, and to effect this every garment must be neat as well as becoming. No garment looks neat unless it is well cared for. Every girl should form the habit of keeping her clothes in good condition, and should learn to do the work herself.

HOME PROBLEMS AND QUESTIONS

Ask some one to show you how to press your wool skirt or dress. Perhaps you can do this at school,

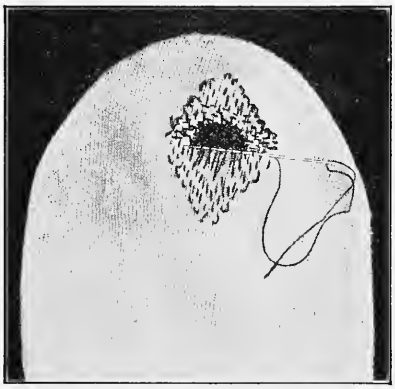
with the help of the teacher. Remember to use a piece of cloth between the wool and the iron. Wear the skirt or dress to school for inspection.

Bring to school a stocking that needs darning.

LABORATORY EXERCISES

MAKING THE UNDERSLIP (*Continued*)

Darning a stocking: Lay aside the slip and practice darning the stocking you have brought from home. Trim around the edge of the hole so that there are no ravelings and the edge is even. Use four-strand darning-cotton and a darning-needle. For heavy stockings two strands of darning-cotton should be used, but for fine stockings use a single strand. Do the darning on the right side. Begin far enough from the hole so that the worn places around the hole, if any, are covered with the first rows of running-stitches. Begin about one fourth inch from the hole, or farther away if the stocking is worn.



METHOD OF MAKING A STOCKING DARN

Make running-stitches back and forth in rows close to each other; make the rows of different lengths. Leave a loop of thread at the end of each row; this allows for the shrinkage of the thread and prevents the darn from drawing up after it is laundered. When the hole is reached, make a few running-stitches up to the hole,

then extend the thread across the hole and continue with running-stitches; turn and repeat, keeping the rows close together, with the edge of the hole *under* the threads that run across the hole. Continue the rows of running-stitches beyond the hole in the same way as in beginning.

Turn the darn so that other rows of running-stitches are made across the first rows, and weave the thread under and over the threads covering the hole, as in plain weaving, finishing each row with running-stitches. Repeat until the hole is filled, keeping the threads close together. A darn should be smooth, so that it will not hurt the foot, and when made with one or two strands of darning-cotton it will not be uncomfortable to wear.

Darn one pair of stockings a week at home until the end of school. Bring them to school for inspection and comparison with the darning done by others in the class.

Continue work on the underslip.

REVIEW QUESTIONS

1. Why should clothing be carefully looked after and repaired?
2. How should garments worn during the day be cared for at night?
3. What is the best method to use in hanging clothing away?
4. How should wool clothing be cared for?
5. How should colored materials be treated before laundering?
6. How should shoes be cared for?
7. How much of the work of caring for your underclothing do you do yourself?

REMOVING STAINS

Stains not only make a garment look badly, but often make it practically useless. With care many stains can be removed without injury to the cloth.

Stains are more easily taken out of wash materials before they are laundered. If one knows what has caused the stain it is always easier to remove it, because different stains are removed in different ways.

To remove stains successfully it is necessary to use the right kind of equipment. This should consist of granite or earthenware bowls, probably one large and two small ones will be enough; some medicine-droppers which may be bought at the drug-store; and bottles in which to keep the various stain-removers. Stains are very difficult to remove from *colored materials* because in many cases the color is injured in doing the work. In removing many stains from white linen or cotton materials, a *bleaching agent* will have to be used. Javelle water is one of the best bleaching agents, but it must be used carefully to prevent injury to the cloth. Javelle water is made as follows —

1 lb. sal soda	1 qt. hot water
½ lb. chloride of lime	2 qts. cold water

Dissolve the sal soda in the quart of boiling water. Put the chloride of lime in the cold water, allow the mixture to settle, then pour the clear liquid into the sal-soda solution. Put in a tightly corked bottle and keep in a dark place, for light and air cause it to lose its strength. When using, add an equal amount of clear water to the portion of Javelle water.

Another bleaching agent is oxalic acid. This is made by dissolving one ounce of oxalic acid crystals in three fourths cup of hot water. The crystals are purchased at the drug-store.

Some stains can be removed by using something that will absorb them and which is called an *absorbent.* Absorbents are used principally for removing grease stains. Those commonly used are blotting-paper, talcum powder, starch, French chalk and fuller's earth.

Some stains can be removed by using a material that will dissolve them. These materials are called *solvents.* The most common solvent is water. Other solvents often used are gasoline, ether and chloroform. Gasoline, ether and chloroform should be used out-of-doors, or by an open window, and always where there is no fire.

The following methods may be used in removing some of the common stains:

Fruit stains in white wash material. Pour boiling water through them; use a bleaching agent when necessary.

Coffee and tea stains on white wash material. When cream has been used in the tea or coffee, rinse with cold water; then pour boiling water through the stain; bleach if necessary. Stains made by clear coffee or tea should have boiling water poured through them without rinsing in the cold water; bleach if necessary.

Grass stains on white or colored material. Use cold water; if the stain is fresh, use soap and cold water. When on white wash materials, a bleaching agent may be used.

Ink stains. On white wash material use a bleaching agent.

Grease and oil stains. Use an absorbent; or warm water and soap; or a solvent.

Paint stains. Use chloroform or turpentine. An

old paint stain on white material may be removed with a bleaching agent.

When removing a stain from colored materials, always test a sample of the cloth before using the stain-remover on the cloth. Sometimes the stain will show less than the spot that is left after removing the stain.

Wool materials, when stained very badly, should be sent to the "dry-cleaners." Grease spots can usually be removed successfully at home.

LABORATORY EXERCISES

MAKING THE UNDERSLIP (*Continued*)

Textile study: Remove an ink stain from a white cotton fabric. Stretch the material across the top of a small bowl, with the stain over the middle of the bowl; dampen the stain with water, using a medicine-dropper; apply the bleaching agent with the medicine-dropper; use a second dropper and apply clean warm water to the stain; use the bleaching agent again; rinse; repeat until the stain is removed; rinse with a little ammonia in the water; rinse very thoroughly with clear water. Dry before pressing.

Remove a grease spot from a wool material. Place a layer of clean, white blotting-paper underneath the spot and one on top of the spot; press with a hot iron. Perhaps it will be necessary to try warm soap and water. Apply this with a piece of cloth or sponge; rinse with warm water. When using any other solvent than water, place the stain over a piece of blotting-paper on a flat surface and rub with a cloth or sponge dipped in the solvent; rub towards the center of the spot, as this helps to avoid the " ring " often formed around the spot. Sometimes rubbing the surface near the spot with the solvent,

spreading it out over the surface, helps to remove the "ring."

Continue work on the underslip.

REVIEW QUESTIONS

1. What three groups of stain-removers are commonly used?
2. Give examples of each group.
3. Should a bleaching agent be used on colored materials? Why?
4. How may grease spots be removed from wool materials?
5. How should the following stains be removed from white wash materials: clear coffee, grass, paint, and ink?

HEALTHFUL CLOTHING

Every girl, at the present time, wishes to be healthy and strong. She wishes to be strong enough to enjoy tramping, playing tennis, riding horseback, sweeping, or hoeing in a garden, without being "worn out." No one can do any of these things easily unless the clothing she wears permits perfect freedom of the body and is comfortable in every way.

A *healthy body* is kept so by frequent bathing, by changing underclothing often and by wearing suitable clothing. It is necessary to bathe the body oftener than once a week. Many people take a bath every day, and when one forms the habit of doing this one feels uncomfortable unless the bath is taken regularly.

Underclothing worn next to the skin should be changed two or three times a week if it is to readily and thoroughly absorb the moisture from the body. Underclothing should fit in such a way that it does not draw or pull at any point. Union suits are very uncomfortable if they are too small and should not then be worn. Wool underwear that is carelessly

washed shrinks and becomes harsh because the loose mesh and the fibers are felted together. *Wool underwear should be washed* in warm — never hot — water, with a mild soap, should never be rubbed but always squeezed to remove the dirt, should be rinsed in water the same temperature as that in which it is washed, should be squeezed — not wrung — and should be dried in a warm place, but not over a hot register nor close to a hot radiator or stove.

Stockings should be chosen to suit the temperature in which they are worn. Thin silk or transparent stockings worn in winter with low shoes are not healthful because much body heat and energy is being wasted in keeping the body warm that would better be used for the necessary functions of the body. Then, too, a person never seems well dressed who appears cold and uncomfortable. Stockings should be changed very often, because the moisture from the skin of the foot soon soils the stocking and causes it to lose the power of absorption, thereby making the foot feel cold and damp. Some people change their stockings every day.

Shoes ought to be comfortable, which means that they must fit the shape of the foot, must be wide enough and long enough, and be made with comfortable heels and soles. A shoe should fit the instep and heel snugly, should be straight on the inside line, should have a heel broad enough to balance the body well and a toe wide enough to give the toes plenty of space. A high narrow heel is not suitable when worn all the time, especially if one is to be on her feet a great deal; it causes "broken arches" and may make one nervous and cause pain.

A shoe should have a sole thick enough to keep out dampness and to make walking easy. In stormy weather *rubbers* keep the feet dry and also prevent the rotting of the thread used in making the shoe.

Tight corsets or *waistbands* are not only very uncomfortable but often cause ill health. Corset waists and corsets should fit well and be loose enough to allow perfect freedom of the body. Skirt and waist bands should be tight enough to stay in place, but not tight enough to stop a free circulation of blood through the body. No one looks well in tight clothing. A *fleshy person* who wears tight corsets and bands pushes the body into such a position that the flesh shows more than it would if the waist were left the normal size.

Wearing *too much clothing* is as unhealthful as wearing too little. Select the amount and kind that will suit the climate, the age, the work one is doing and the state of health. Sick people and old people require more clothing than young people who are strong and well. A person working out of doors in winter requires more clothing than a person who works in the house all day. Every one requires less clothing in warm weather than in winter. Remember that clothing has a great deal to do with the state of health, and that it should be selected very carefully if the body is to be kept in a healthy condition.

LABORATORY EXERCISES

MAKING THE UNDERSLIP (*Continued*)

To finish the neck and armholes of the slip: The neck is to be finished with narrow embroidery edging, about one inch in width. Select a pattern that matches or

looks well with the pattern in the embroidery used in the ruffle. Enough embroidery edging should be purchased to go one and one third times around the neck and each armhole. How will you measure for this amount? Divide the embroidery into three pieces — one for the neck and one for each armhole. How will you do this?

Make a one-eighth-inch hem on each end of the piece for the neck. Gather ruffle one fourth inch from the edge. Join the ends of each piece for the armholes, using the same joining as used in the ruffle. Gather each one fourth inch from the edge.

Method of Basting Bias Strips around Armhole

Trim around the neck and armholes. Find the middle of the length of the embroidery for the neck, and pin this to the neck of the slip at the middle of the front so that the right side of the embroidery is against the right side of the slip, and the raw edges are together. Pin the ends of the strip to the ends of the neck in the same way. Pull the gathers into position; fasten the gathering thread; divide the gathers evenly around

the neck, and pin into place at several points. Baste ruffle to slip along line of gathering.

Cut a bias strip of the long cloth one inch wide, as you did for the bias casing. Begin at the back of the neck, place the edge of the bias strip even with the raw

The Finished Underslip

edge of the seam just made, with the bias strip on top of the embroidery; baste along the line made by the first seam, holding the bias strip slightly fulled instead of stretching it. This will make a seam of three thicknesses of cloth. Stitch the seam by machine. Remove bastings.

Turn in the other edge of the bias strip one fourth inch toward the wrong side. Turn the bias strip down on the wrong side of the slip, drawing it down smoothly from the seam, and baste along seam edge to hold in place. Baste the folded edge of the facing to the slip. Perhaps you will have to stretch the folded edge a little to make it lie smoothly. Turn in the ends of the bias strip and overhand the folded edges to the edges of the placket. The bias strip may be stitched on the machine along the folded edge, or it may be held in place with feather-stitching done on the right side of the underslip along the folded edge of the bias strip.

Finish the armholes in the same way. The seam in the embroidery should be joined to the slip at the under-arm seam. When basting the bias strip in the seam with the embroidery, it may be necessary to hold it a little fuller than you did around the neck, because the armhole is more curved.

To fasten the underslip: Sew on two or three small buttons down the placket, making buttonholes to match.

To shorten the underslip: In order to make the slip the right length, one or two tucks may be made just above the tuck for the flounce. These tucks can be let out when the slip needs lengthening. Use the tucker on the machine for doing this. Follow the directions given for gauging the width of tucks as given in the machine book of directions.

REVIEW QUESTIONS

1. What effect does clothing have on health?
2. What points should be remembered about underwear for the healthy person?

3. How should wool be washed?
4. Discuss stockings in relation to health.
5. What kind of shoe should be selected?
6. Should tight clothing be worn? Why?
7. What things must be considered when selecting clothing that will be best for you to wear?

SELECTING A WASH DRESS

When one selects material for a wash dress there are *several things to be remembered:* (1) Is it a becoming color? (2) Is the design in the cloth right for the figure? (3) Will it launder well? (4) Will the material wear well?

A wash dress has to be laundered often, therefore a material that shrinks badly or that is poorly dyed is not a good selection. Our study of textiles has shown that some cotton cloth is loosely woven, that it is often made of cheap fiber, and that it may have sizing added. When selecting a wash-dress material, the best plan is to test a sample at home before buying the material. *Test* it by washing in warm, soapy water, drying and ironing. If the material shrinks or fades badly it is not a wise selection for a wash dress. It should not *fade in the sun.* Cover one half of the sample with a piece of cardboard on which is placed a book, and leave the other half uncovered; place the sample in the sunlight for several days to see whether it will fade.

Material in which there is a great amount of sizing should never be selected; but remember that many kinds of cloth are starched in the finishing process, so that a starched surface does not necessarily mean that the cloth is poor. A very cheap

price usually indicates a very poor material. Often on bargain counters are cheap materials that may offer a temptation to buy, but unless one has had a good deal of experience in selecting materials it is unwise to buy at the bargain counter.

Linen materials are often used for dresses, but linen wrinkles easily and, as it is expensive, is not generally used for the everyday dress. Linen cloth does not soil so quickly as cotton cloth, because the surface is smoother and does not take up the dirt so easily. Colored linen materials usually fade badly. However, we like to have dresses made of linen because of their beauty and "feel."

Besides selecting the colors that launder well, it is necessary, in selecting any dress, to choose the one that is *becoming* in color. There is no complexion that cannot be improved by selecting the color best suited to it. Individuals are divided into two general groups according to their complexion: (1) blondes, and (2) brunettes; but there are many types of blondes and many types of brunettes. It is impossible to give any set rules in regard to the choice of color because of the difference in types and because color affects each individual differently. The color selected for the dress should depend upon the complexion, the color of the hair and eyes, the size of the person, and the occasion when the dress will be worn.

Large people should be careful not to emphasize their size by wearing bright colors, or large or conspicuous designs in materials. *Bright, intense colors* are usually not a wise choice for any dress, not only because they make one conspicuous, but also because they become very tiresome if the garment

must be often worn. Bright colors may be used appropriately as touches here and there on a dress. Party dresses are often made of brighter colored materials than should be used for the school or street dress. Dark blues, greens and browns, although good colors to select for wool suits and coats, wool or silk dresses, are not best to select in wash materials, because they are hard to launder. Lighter blues, greens, lavenders, pinks, buffs and tans are colors very much used in wash dresses. Pinks should not be too vivid, as paler shades are more becoming.

To decide on the color for a dress requires thought and study of one's self. Trying on a dress while standing before a mirror may lead one to change one's mind about the color. Observe other people to learn how certain colors affect their appearance. Perhaps you have studied color in connection with your art work. The knowledge so gained can be applied in selecting the color for your clothing. *Color* is the first thing that attracts or repels in a costume, and should be considered first when selecting a dress.

LABORATORY EXERCISES

PLANNING THE WASH DRESS

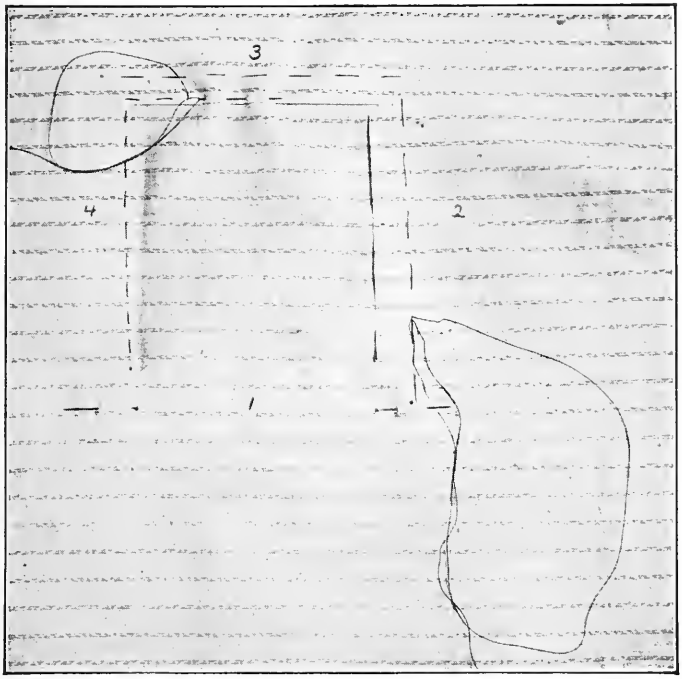
Textile study: Test samples of pink, lavender, light blue and buff chambray to find out how they will launder, and also whether they will fade in the sun.

If possible, test colors on girls of different types before the class. Half-yard lengths of silk, wool, or cotton materials may be used to drape around the shoulders of the girl.

Select colors suitable for wash dresses to wear to school; select colors suitable for a coat; colors suitable for a

party dress. Select the most becoming colors for the chambray dresses to be made in class.

Study the pattern book and select a pattern for a one-piece dress of any simple design, which would be suitable

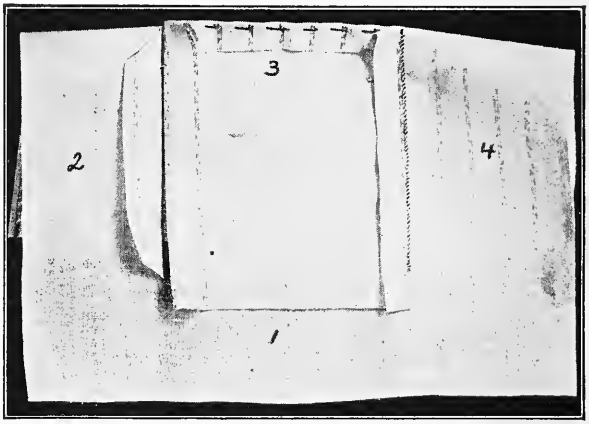


Four Steps in Making a Hemmed Patch

to use for a chambray dress. How much chambray will be needed?

To make a hemmed patch: A hemmed patch is used where there will be a good deal of strain on the material and where it is not objectionable to let the stitches show. It would be used when patching such articles as a boy's trousers, or under the arm of a corset-cover or slip. The piece of cloth used for making the patch

should be like the garment to be patched. Cut a square or rectangular piece of cloth for the patch, large enough to cover the hole and extend beyond the worn part, allowing one fourth inch extra all around the piece for turning. Turn down on to the wrong side one fourth inch on all four sides of this piece. Find the middle of the patch and place this over the middle of the hole on the wrong side of the garment; pin into place, having the warp threads in the garment and in the patch



Four Steps in Making an Overhand Patch

parallel. If there are stripes, checks, or figures, the patch must be pinned so that they match. Baste along folded edge of patch; hem by hand.

Turn garment to right side and cut around the edges of the hole until it is square or rectangular in shape, making the edges of the hole at an equal distance from the folded edge of the patch. At each corner of the hole make a one fourth inch cut on the diagonal of the cloth. Turn the edge of the hole down one fourth inch on to the patch, making the corners square. Baste along fold; hem by hand. Remove all bastings.

To make an overhand patch: This patch is used where there will be little strain on the material, and where it would be objectionable to have the stitches show. A hole in the skirt of a wash dress or in a waist may be mended with this patch. Cut the hole square or rectangular in shape; make a slanting cut at each corner, as you did in the hemmed patch. Turn under this edge all around the hole one fourth inch. Measure the length of the sides of the hole. Cut the patch one half inch longer each way than the size of the hole, making the design in the material match before cutting. Turn the edge of this patch down one fourth inch all around toward the wrong side. Lay the folded edge of one side of the patch to the folded edge of one side of the hole, with the right sides together. Match the design carefully, or in plain material be sure that the warp threads of the patch and garment are parallel. Baste the folded edges together so that they can be overhanded. Overhand along the folded edges. Remove bastings. Repeat the process on each edge of the square. When it is finished, cut off a tiny triangle of cloth at each corner of the piece used for the patch, so that the fullness is removed. Overcast each edge of the patch and each edge of the hole separately. This patch, when well done, scarcely shows on the right side.

REVIEW QUESTIONS

1. What four points should be considered when selecting a wash-dress material?
2. How may wash materials be tested?
3. When is it wise to purchase "bargains"?
4. What are the advantages and disadvantages of linen material for dresses?
5. How should colors for a dress be selected?
6. What colors are good for suits or coats?
7. How should very bright colors be used?
8. Is color in dress important? Why?

THE BECOMING DRESS

Clothing is worn for protection, for modesty and for adornment. Clothing has power to make one look ridiculous, undignified and conspicuous, or it may make one appear dignified, attractive and perhaps beautiful. Clothing also has the power to make one feel comfortable and at ease, or self-conscious and ill at ease.

A really well dressed person never wears conspicuous clothing. When one looks at a well dressed person it is the person herself and not the dress that first attracts attention. The clothing worn should be so selected that it sets off any good points about the face or figure and covers up defects.

Young girls do not need much decoration on their clothing. No one should follow the "latest style" unless it is becoming. In any season there are styles that can be selected which are becoming and are often much more beautiful than the extreme styles. Besides selecting a suitable color for the dress, one must select a becoming color for the hat and wrap, and all three *garments must harmonize* with each other. A coat of pronounced color, such as mustard color, or bright green, is not the best selection if it must be worn with dresses of different colors, because some of the dresses will not harmonize with the color of the coat. A *street coat* of pronounced color is never a good choice when the garment must be worn more than one season, because it is usually very much "out of style" the second season.

Besides selecting the proper color for clothing, it is necessary to select the *right design in the material.*

Very large, brightly colored designs in cloth should not be selected by one who is large in size. Bright plaids are not a wise selection for the stout person; neither are wide stripes a good choice. Narrow stripes may be used, provided there is not too much contrast in the color and width of the stripes. *Plain colors*, when of the right shade, are often the best selection for the stout person; very small, inconspicuous designs in the material may, however, be used. A *glossy surface* on cloth like satin always makes one appear larger if used for an entire garment. *Tall thin people* can often improve their appearance by wearing materials designed in large plaids or, perhaps, in large figures of the right colors.

The *structural lines* of a dress have much to do also with the effect on the figure. *The stout or short person* should emphasize the vertical, or up-and-down line, of the costume. This may be done by having unbroken lines of trimming down the length of the dress; by using narrow belts that are of the same material as the dress; by avoiding the use of wide belts, or of deep yokes on waists or skirt; by never using bands of trimming or tucks running in horizontal lines, and by avoiding ruffles. The dress must not be extremely tight, nor should it hang too loosely, as either arrangement makes one look larger.

The tall thin person needs to emphasize the horizontal line in her costume, being careful not to bring out, with the lines, the objectionable angles.

Never choose the *dress pattern* because it is in style unless the structural lines are adapted to the figure.

Hats and *hair-ribbons* must suit the lines of the

face. Hair-ribbons often make a girl look ridiculous because the bow is too large for the size of the head and face.

The only way to learn how to select the well designed costume is to study one's self carefully, remembering that the selection of the right color is very important, and that structural lines may do much to improve one's appearance.

HOME PROBLEMS AND QUESTIONS

Find in the fashion books designs for dresses: (1) emphasizing vertical lines, and (2) emphasizing horizontal lines. Bring the designs to class for discussion. Cut out and mount them in "The Clothing Book"; state under each design what lines are emphasized and how it is done.

LABORATORY EXERCISES

MAKING THE WASH DRESS

Study the pattern to be used for the dress. How should it be laid on the material to be most economical of cloth?

Does the length of the pattern need changing? How will you do this? If tight-fitting sleeves are too long, take a tuck across the pattern two inches above and two inches below the elbow, to make the right length. When the sleeve is too short, cut the pattern across two inches above the elbow and two inches below the elbow, and pin between the pieces of the sleeve strips of paper wide enough to give the needed additional length; shape the edges of the sleeve. Lay the pattern on the material after it is adjusted.

Pin all the pieces of the pattern to the material. Cut out the dress. Follow the directions for making which

are given on the pattern. Gingham dresses are usually made with plain seams. All basting and fitting must be done carefully. The dress should be straightened around the bottom before hemming. How did you do this on the underslip?

REVIEW QUESTIONS

1. For what purposes is clothing worn?
2. What effect does clothing have on one's appearance?
3. What kind of clothing does the well dressed person select?
4. What designs in material are suitable for the large person to wear?
5. Do you think the person of average size has much difficulty in selecting becoming clothing?
6. What kind of structural lines should be used in the costume of a stout person? of a tall, thin person?
7. In what ways are these structural lines emphasized?
8. How can one decide about the type of clothing one should wear?

APPROPRIATE CLOTHING

A girl is *well dressed* if she has selected clothing that is appropriate to the occasion when it is to be worn, that is suitable for her circumstances, that is correctly designed, and is made of materials suitable for her age.

Dresses and hats decorated with much trimming are not suitable for a schoolgirl at any time. Velvet and satin are materials which are unsuitable for a young girl to wear. Simple silk dresses may be worn for "dress-up" occasions, provided they are suitable to the community in which the girl lives. A girl never looks appropriately dressed when she wears clothing that may make her companions feel uncomfortable because it is more expensive than that which they are wearing. The girl who selects

for her *Commencement dress* one that is much more elaborate than that of any other girl in the class does not look appropriately dressed. Many schools now adopt the plan of having the entire class wear the same type of clothing in order to avoid just such ill feeling as may be caused by the girl who is not kind enough to consider her companions. Girls graduating from the eighth grade should wear for Commencement simply made white wash dresses with black or white low-heeled pumps or shoes; never satin or silk dresses, with French-heeled slippers, gloves and hats!

Simple wash dresses, or simply made wool dresses, are appropriate selections *for school.* The dress worn by the business girl should be plain and designed to give perfect freedom for doing her work. The wash dress is most appropriate *for kitchen wear.* A housekeeper looks very badly dressed when she wears soiled, partly worn, wool or silk dresses in the kitchen, or when she goes about her work with her hair uncombed.

Waists, dresses, or other clothing made from cheap materials or trimmed with coarse, cheap lace and embroidery make one appear *poorly dressed.* No well dressed person selects such clothing. When she cannot afford to buy the elaborate clothing made from good materials, she selects the simpler clothing of good quality and with less trimming.

When a good quality of cloth is selected for a dress, use trimmings that are of as good quality, or else go without trimming. Cheap pearl buttons often spoil an otherwise attractive garment. Frequently, by removing the cheap buttons when they are used as trimming, or by replacing them with

good pearl buttons, a garment will be greatly improved in appearance.

No matter how carefully the dress has been chosen and designed, unless the hair is properly arranged, the hair-ribbon of the right color and size, the shoes and stockings of the right style, and the proper amount and kind of jewelry worn, the girl does not look appropriately or well dressed. No young girl needs to curl her hair; she should never use the curling-iron on it, as this breaks and injures the hair. The hair should be arranged in a simple way, and when a ribbon is worn, the color of the ribbon must suit the girl's complexion and must harmonize in color with the rest of her clothing. A girl should *never use powder or paint* if she wishes to look properly dressed. Shoes must be polished and stockings in good order, to look well with any dress. A girl should wear little jewelry. Nothing spoils a girl's appearance more than wearing *cheap jewelry.*

Every girl wishes to be well dressed, and to achieve this the clothing must be neat, made of good materials, of the proper color and design, with the right structural lines, and appropriate to the time, the place and the circumstances. It is every woman's duty, and usually her desire, to look well dressed; therefore it is worth while for the girl in school to begin to study clothing with the thought in mind of selecting that which is appropriate for herself and which will make her unconscious of her appearance.

HOME PROBLEMS AND QUESTIONS

From the fashion book select pictures of garments which you consider proper to wear: 1, two dresses

for school; 2, a coat; 3, two wash petticoats; 4, a combination suit or slip; 5, a party dress. Find a picture of the proper kind of shoes to wear to school; of a suitable hat for school; of a suitable hat for "dress-up" occasions. Bring them to school for discussion. Cut out and mount in "The Clothing Book."

LABORATORY EXERCISES

MAKING THE WASH DRESS (*Continued*)

Continue work on the dress.

REVIEW QUESTIONS

1. When is clothing appropriate?
2. Discuss "Commencement" clothing.
3. What kind of dress is appropriate to wear to school?
4. How can a dress be spoiled with trimming?
5. Discuss the selection of hair-ribbons.
6. Under what conditions may a beautiful dress look badly?
7. What points must a well dressed girl consider when selecting her clothing?

SOME POINTS FOR THE CONSUMER

It is estimated that the women of the United States spend a billion of dollars a year for textile materials. Many women know very little about buying textiles, which explains why there are many cheap and adulterated materials put on the market. The cheap and adulterated materials make it difficult for the woman who is a careful buyer to select good materials. We have no Pure Textile law in this country to protect us from adulterated fabrics, as the Pure Food law protects us from adulterated food. In order to buy intelligently and wisely, one

must study textiles so that one may learn the quality and price of good materials.

When *buying materials by the yard,* several points should be considered:

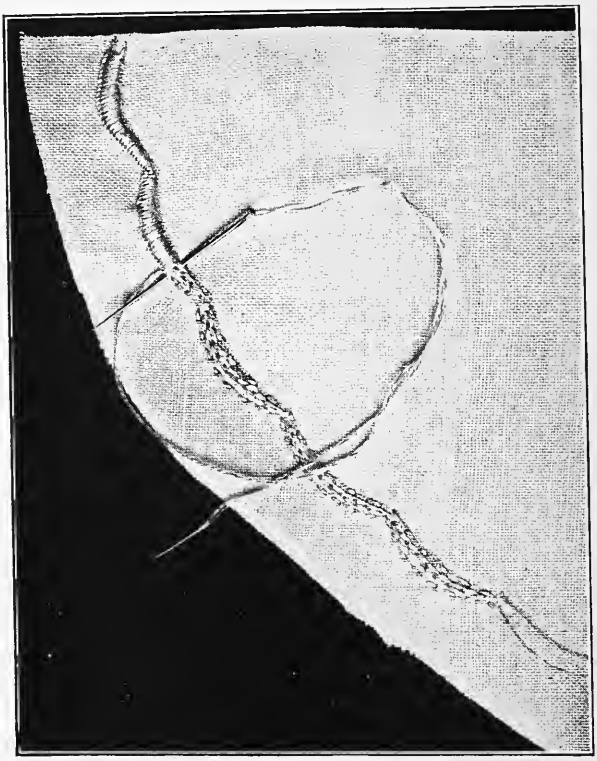
1. Know exactly the amount of material needed.
2. Know the amount of money that can be spent for the material.
3. Know which are the best kinds of materials to select for the purpose and for the price to be paid.
4. Know the points that show good quality in textile materials, so that those selected shall be worth the price paid.
5. Remember always that materials good of their kind should be selected, rather than cheap quality in the more expensive types. For example, it is better to buy a good quality serge which costs less than a good quality broadcloth, than to buy the cheap quality of broadcloth at the same price as the good quality serge.

Firmly woven materials usually wear longer and hold their shape better than loosely woven materials. A garment of all-wool material holds its shape better than one made of part wool and part cotton, and when selecting materials for dresses, coats, or suits, it is wise to buy all-wool if one can afford to do so.

A soft, pliable *silk* is usually less likely to be weighted, and will wear better, than a heavy, stiff silk. A silk material should be firmly woven because when loosely woven it is apt to pull out at the seams. "*Bargains*" in silk are usually not a wise selection, because the silk is apt to be of poor quality or has been injured in some way. Both wool and silk are expensive fibers and no one should expect to buy cheap materials made from them.

In *buying ready-made garments*, there are many things to be considered:

1. Is the garment made under sanitary conditions? Many undergarments, cheap waists and



Method of Making Embroidered Scallops

dresses are made in sweat-shops that are dirty, poorly aired and in every way an unfit place for women and girls to work. Often such garments are made in homes where conditions are not sanitary and

where, perhaps, there is sickness. The girls and women in sweat-shops work long hours for low wages. Garments made under these conditions are often cheaper than those made under good conditions, but are not sanitary. The best ready-made

Dark blue Serge skirt Black White poplin smock.
Dark blue Chevriot Coat for School wear.
Pongee of natural color. This dress would be used as a "dress-up" dress.
School Dress for Fall and Spring
Plaid Gingham— Blue and white. White fringe collars & cuffs.

A Page from the Clothing Book

garments are made in light, well ventilated, clean work rooms, by women and girls who receive good wages for their work. Inexpensive as well as costly garments are often made under these good conditions. Many garments made under good conditions are

labeled with the Consumers' League label. This is a printed tag, fastened to the garment, and can be used only by factories where the working conditions meet the standards of the League. Perhaps you have seen garments with this label.

2. Is the material of good quality and suitable for the garment?

3. Is the garment well made, so that the seams will hold and the trimmings not pull apart? Coarse or crooked stitching spoils the appearance of a garment. Ready-made garments, such as dresses, coats, or suits, may often be bought at a lower price when purchased "out of season." Winter garments are sold for less in January and February, and summer clothes in July and August. If one selects a garment of a style that will look well the following season, it is economy to buy "out of season."

When planning the wardrobe for any season, first look over all garments left from the previous year to see which can be mended or made over; then decide what new garments will be needed. It requires careful thought and planning to buy wisely, and whoever wishes to make the best use of her money must know many things about textiles before she can make the best selections.

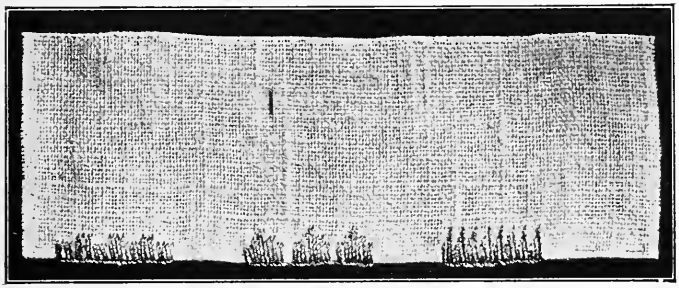
HOME PROBLEMS AND QUESTIONS

Write a composition on "The Selection of Clothing" to read in class. Put this in "The Clothing Book."

LABORATORY EXERCISES

MAKING THE WASH DRESS (*Continued*)

Collars and cuffs of a contrasting material may often be used on the wash dress. White piqué or heavy

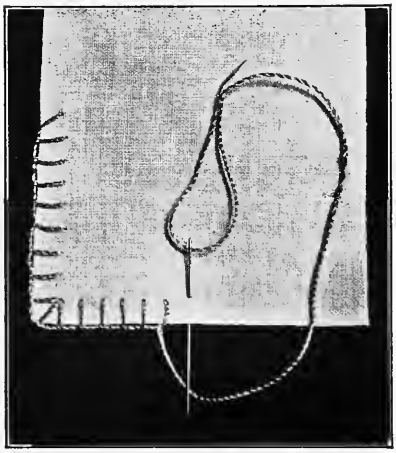


DESIGNS IN BLANKET-STITCH

These may be used on the edges of collars and cuffs.

linen may be used with chambray. Figured materials may be used as trimming on garments made of plain material; if the garment is of figured material use plain material for collars, cuffs, etc. With a figured material, never use braids put on in patterns.

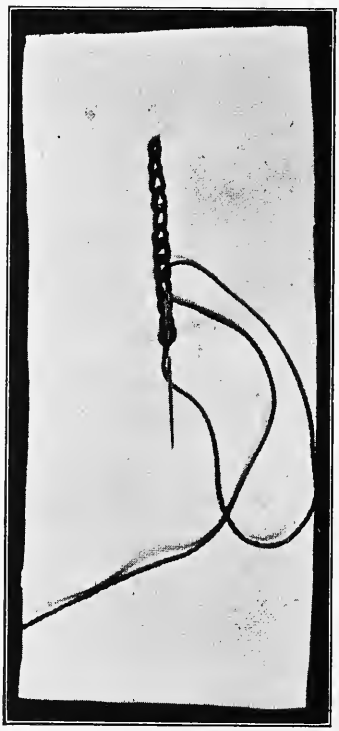
To use the blanket-stitch on a collar: Fold a narrow hem on the edge of the collar; baste. Make the blanket-stitch over this hem, using cotton embroidery floss to match or harmonize



METHOD OF MAKING BLANKET-STITCH

with the color of the dress. The stitches may be made of different lengths, so that points are formed in the design.

To use the chain-stitch on a collar: Fold a hem on the edge of the collar; baste. Hold the hem in place with chain-stitching. Chain-stitching is always done on the right side of the material. Begin with a knot. Bring the needle through from the wrong side, hiding the knot under the folded edge of the collar. Put the needle into the hole through which the thread just came, and make a stitch one eighth inch in length, bringing the point of the needle through the loop of thread formed by bringing the thread out and putting the needle back in the same hole. Pull the loop into place, so that it is flat on the cloth but not drawn out of shape. Put the needle into the hole inside the loop through which the thread just came, and make a stitch one eighth inch in length, bringing the point out over the thread; draw the loop into place. Continue in this way. The material should be held so that the needle points towards the worker when each stitch is taken. Making the stitches even makes the work uniform. Chain-stitch should be made with heavy embroidery floss.



Method of Making Chain-stitch

To scallop the edge of the collar: Draw a design for the scallops to be used on the edge of the collar; trace on the cloth, being sure to follow the shape of the collar as given in the pattern. Make a row of running-stitches along the tracing of the scallop on both the outside and inside edge. Chain-stitch through the middle of the scallop; this is to be used as padding in order that the scallop may be rounding on top when finished. Finish the scallop by blanket-stitching. The stitches should be made close together and so that they cover the rows of running-stitches and the chain-stitch. Use embroidery floss that is not too heavy, or the work will look coarse.

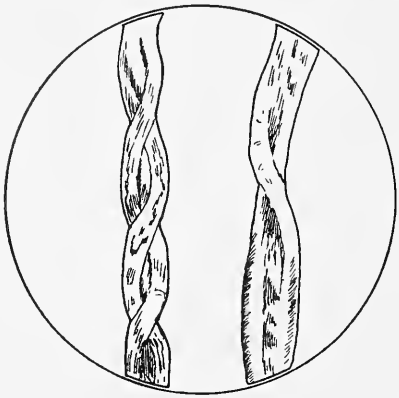
REVIEW QUESTIONS

1. How much money do the women of the United States spend for textiles every year?
2. Is it as difficult to choose pure textiles as it is to choose pure food? Why?
3. What points should be remembered when buying textile materials by the yard?
4. What points must be remembered when selecting silk? wool?
5. What is the work of the Consumers' League?
6. What points should be observed when selecting ready-made garments?
7. How may the study of textiles and clothing be a great help to the buyer?

SOME TEXTILE TESTS

Because textile materials are often adulterated, or made of poor material, it is quite necessary to know some simple tests that may be used for detecting inferior fabric. Often, by the use of one of these tests, one may avoid buying a fabric that will not wear well, that is not true to name, that will fade or launder badly, or that will pull and stretch

out of shape readily. The following tests will be of help and should be used whenever possible:



Cotton Fibers Magnified

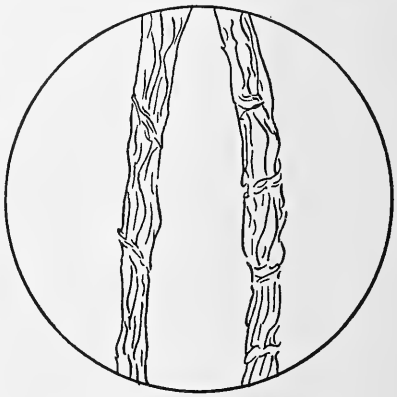
A study of fibers under the microscope. The high-power microscope is very useful in telling the quality of a fabric, because each fiber has a different appearance under the microscope. By pulling apart the threads in a fabric and examining the fibers, one may tell whether the cloth is all-wool, whether it is all-linen or all-silk, and whether poor fibers have been used as substitute material. Under the microscope the fibers look as follows:

Cotton — ribbon-like, tubular fibers which are more or less twisted.

Flax — long, with cross lines at intervals, giving the appearance of joints.

Wool — a serrated surface which is easily detected.

Silk — no markings of any kind, but the fibers appear



Flax Fibers Magnified

as somewhat flattened and composed of two filaments.

Burning tests. By burning threads pulled from materials one may often judge somewhat of their quality. Light the end of the thread and observe the odor given off and the manner in which it burns.

Cotton and linen threads burn quickly, with a flame, and little odor is apparent.

Silk and wool threads burn slowly, char, and smell like burned feathers.

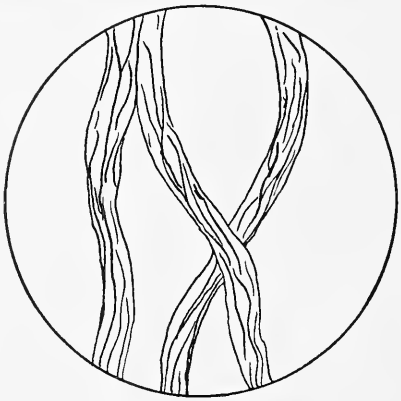
Weighted silk burns very slowly and, if very heavily weighted, the form of the silk remains after burning.

Wool Fibers Magnified

Testing the strength of fabrics. A fabric is not strong and does not wear well when it is made of a poor fiber; of weak threads in the warp and strong threads in the woof, or vice versa; or if woven poorly. Pull apart the material and test both warp and woof threads by pulling. Try tearing materials, such as muslin, long cloth and gingham. If they tear with little effort the cloth is not so good as it should be. By holding a piece of cloth firmly with both hands and pressing down on the surface with both thumbs one may determine whether the material is firmly woven. If the threads push apart easily the material will be

apt to pull out at the seams or wherever there is any strain.

Tests for shrinkage. A wash material may be tested for shrinkage by first carefully measuring the length and width of the sample, then washing in warm soapsuds, rinsing, drying and pressing; after this the sample should again be measured and the size compared with its original size.



Silk Fibers Magnified

Weighting in cloth. Cotton and linen materials may be tested for weighting in several ways:

1. Tear the cloth and observe whether a fine powder flies. This powder is weighting.

2. Scratch the surface of the cloth with the finger nail to find whether any of the weighting material can be removed.

3. Rub the cloth between the hands and observe whether the weighting will rub out of the material, leaving it less stiff and not so heavy in appearance.

4. Boil a sample in water until the sizing is removed, after which the true quality of the material may be observed. The time required for doing this will depend upon the amount of sizing present.

5. Study the cloth by holding it up to the light and looking through it. Sometimes the sizing may easily be seen.

Silk materials are weighted by adding chemicals, and the tests above do not apply. A weighted silk may be burned, a square sample being used instead of a thread. If the silk is weighted it retains its shape after burning.

Chemical tests. Chemical tests are the most dependable in determining the quality of cloth, but many of them require a considerable equipment and a knowledge of chemistry; therefore, in testing materials at home, only a few tests can be used. The following are some very simple tests:

To determine the amount of cotton in a wool sample. Place the sample in a porcelain dish, cover with a 5 per cent solution of caustic potash (this can be purchased of the druggist), boil gently for fifteen minutes, remove what remains with a glass rod, rinse in clear water and dry. The part of the sample left is the cotton in the material, as the wool is destroyed by the caustic potash. If nothing is left of the sample after it has been boiled, it is all-wool.

To determine the amount of cotton in a silk material. Follow directions given in the first test. The silk will be destroyed and the cotton will remain.

To determine the amount of cotton in a linen material. Pull out the warp and woof threads on two sides of the sample, so that a deep fringe is formed. Place the fringed sample in a porcelain dish; cover with a 50 per cent solution of caustic potash (obtained from the druggist), and heat for two minutes; remove sample with glass rod, dry between blotting-papers. The linen will be dark yellow or orange in color, and the cotton white or light yellow.

This test is easily used on white flannel.

To determine whether silk is "true" or artificial. Place the sample in nitric acid, remove and observe color; true silk turns yellow, artificial silk is not affected.

LABORATORY EXERCISES

MAKING THE WASH DRESS (*Continued*)

Textile study: Make as many of the tests described above as possible.

Continue work on the dress.

REVIEW QUESTIONS

1. In what ways are fabrics adulterated?
2. Describe the different fibers as they appear under the microscope.
3. Name some types of materials in which weighting is sometimes found.
4. Why do we wish to avoid buying materials that are weighted?
5. What effect does weighting have on silk?
6. In what two ways may a linen cloth be tested to find whether it is all-linen?
7. Name some materials likely to be adulterated with cotton.
8. In what ways should a gingham be tested before it is purchased for a dress?
9. In what ways should long cloth and cambric be tested?
10. How should a silk material be tested before purchasing? a wool material?
11. Does the price of a material fully indicate its value?
12. Why is it worth while, whenever possible, to test materials before purchasing?

CHRISTMAS GIFTS

Gifts that can be used, or that really give pleasure to the person receiving them, are the proper ones to select. Gifts that cannot be used or enjoyed by

those receiving them show either bad taste or else a lack of thought on the part of the donor. A beautiful Christmas card may give more pleasure to some persons than any other gift that could be selected. It is not the cost, but its fitness, that makes the worth-while gift.

Hand-made gifts are especially desirable, because they represent time and thought spent for the purpose of giving pleasure to those receiving the gifts. The following are simple gifts that can be made at school or at home by the members of the sewing-class.

Cover-bag: *Materials* — three and one half yards wash material, 27 to 30 inches wide; lawn, dimity, or similar materials are suitable. Thread to suit materials. Cotton embroidery floss.

Straighten the ends of the material. Fold together so that the ends are even and the right side of the material is inside. Make a plain seam one fourth inch wide down each lengthwise edge. Turn the bag with right side out. Across each end make a hem one inch wide, and feather-stitch with the embroidery floss. Find the center point on the fold at the top of the bag. Cut out a round piece of the cloth at this center point, making the hole about the size of a dollar. Make a very narrow bias facing around the hole, following directions given for facing armhole of underslip. Feather-stitch the facing down to the material, using embroidery floss. This hole slips over the hook on the coat-hanger.

Linen money-bag: This is a suitable gift for any one who travels.

Materials — A piece of white linen, $8\frac{1}{2}$ inches long and $4\frac{3}{4}$ inches wide. Thread to suit material. A piece of chamois five inches long and four inches wide. One

yard of narrow linen tape. Two very small pearl buttons.

Make a hemstitched hem one half inch wide across one narrow end, and a plain hem one half inch wide across the other end. Make plain hems one eighth inch wide down each side. Fold up the end finished with the plain hem to make a pocket $2\frac{1}{2}$ inches deep. Overhand the sides together, as in making the apron pocket. The hemstitched end laps over the top of the pocket. The tape should be cut in halves. Sew one piece at each side of the fold of the lap. This is done by making a tiny hem across the end of the tape and then overhanding the fold of the hem to the pocket. Fold the chamois together and overhand at the sides to form a pocket. This slips into the linen pocket, and can be removed when the linen pocket needs washing. To fasten down the lap of the pocket, sew the buttons to the linen pocket; make two loops on the fold of the hemstitched hem that will fit over the buttons. To make a loop of thread, make three long stitches, one over the other, exactly on the fold; blanket-stitch around these threads, making the stitches very close together.

Stove-holders: *Materials* — Muslin strip, twenty-four inches long and six inches wide. Chambray strip $12\frac{1}{2}$ inches long and $6\frac{1}{2}$ inches wide. White thread. A narrow linen tape, four inches in length.

Fold the muslin strip to four thicknesses, so that it makes a six-inch square. Baste so that the edges are kept even. Turn down the edge of the chambray one fourth inch toward the wrong side. Baste down this fold. Cover the muslin square with this strip, placing the wrong side of the chambray next to muslin. Baste together the folded edges of the chambray on the three open sides of the holder, being careful to keep the folded edges even. This makes a holder six inches square. Stitch with machine, close to the folded edge,

along all four sides of the holder. Baste together the layers of the holder so that they do not slip; make a straight line of basting diagonally across the holder each way; this is to be a guide in stitching. Stitch with machine along these lines of basting. Place the two ends of the piece of tape together; overhand the tape together along one side for three fourths inch, beginning at the cut ends; open flat. Turn under this cut end one eighth inch. Fasten the tape to the corner of the holder by hemming along the edges and across the end, leaving a one-inch loop beyond the edge of the holder, so that it may be hung up easily.

INDEX

Absorbent cotton, 22
Absorbents for grease stains, 112
Adulteration, in fabrics, tests for, 143–144
  of cotton goods, 52–54
  of wool, 81
Albatross, 89
"All-linen" toweling, 67
Alpaca, 80, 88
Alpine Rose, muslin, 32
Angora goat, 80
Apron gingham, 18
Apron, sewing-, 10, 11, 16–18, 21, 23–28
Artificial silk, 97

Baby ribbon, 55
Back-stitching, 95
Band, for sewing-apron, 17
"Bargains", delusions in, 133
Basting, 9
Basting-stitches, 9
Bathing, 114
Bath towel, 68
Batiste, embroidery on, 91
Beadings, 47, 93
Berkeley cambric, 33
Bias casings, 57–59
Blanket-stitch, 27
  on collar, 137–138
Bleaching, agent, 111–113
  cotton, 29
  linen, 74
Bobbin, 29
Bolt, of cotton cloth, 30
Breaking flax, 73, 74
Brilliantine, 88
Broadcloth, 88
Budget, the, 101
Burr-picker wool cleaner, 84
Buttonhole scissors, 4
Buttonholes, making, 25–27
Buttons, sewing on, 25

Calico, 40
Cambric, 33
  embroidery on, 91
Camel, 80
Canton flannel, 41
Carding, 29
Care, of clothing, 106–109
Cartwright, Edmund, inventor of cotton loom, 29
Cashmere, 89
Casings, 57
Chain-stitch, on collar, 138
Challie, 89
Chambray, 19
Cheesecloth, 41
Cheviot, 88
Chiffon, 65
China silk, 65
Chintz, 41
Chloroform, 112
Christmas gifts, making, 144–147
Cloth, 15–16
  dyeing, 49–50
  examination of, 16
  making cotton, 28–30
    woolen, 83–85
Cloth beam, 29
Clothing, appropriate, 129–131
  care of, 106–109
  cost of, 101

Clothing — *Continued*
harmony in, 126
healthful, 114–116
ready-made, 134–136
removing stains from, 110–113
suitable amount of, 116
Clothing Book, the, 102, 103–104, 128, 131–132, 136
Cluny lace, 45
Coffee, stains, 112
Color, selection of proper, 121, 122
setting the, 107
Commencement dress, 130
Complexion, colors becoming to, 121
Consumers' League label, 136
Consumer, some points for, 132–136
Cord, crocheted, 57
Corsets, 116
Cotton, 15, 22–23, 28–30
bales, 23
bleaching, 29
bolls, 22, 23
carding, 29
cloth, 15
making of, 28–30
testing for strength, 53
countries producing, 22
fiber, 22, 23, 140
gathering, 23
gin, 23
growing, 22
loom, 29
picker machine, 28
seed oil, 23
sizing, 29
starching, 30
weighting, 53
wide use of, 22
Cotton, darning, 109
Cotton floss, 16
Cotton materials
Cotton materials — *Continued*
absorbent cotton, 22
calico, 40
cambric, 33
Canton flannel, 41
cheesecloth, 41
chintz, 41
crêpe, 32, 33
cretonne, 41
damask, 76
denim, 41
dimity, 10, 12, 33
dotted Swiss, 53–54
flannelette, 41
gun cotton, 22
long cloth, 32
mercerized cotton, 54
muslin, 32
nainsook, 33
organdie, 41
percale, 41
piqué, 42
sateen, 42
unbleached muslin, 32
Cotton stockings, 97
Cotton tape, 56
Cotton in linen fabrics, tests for, 143
silk fabrics, tests for, 143
wool fabrics, tests for, 143
Cover-bags, 107, 145
Covert cloth, 89
Crash toweling, 67, 75
Crêpe, cotton, 32, 33
Crêpe de Chine, 65
Cretonne, 41
Crocheted cord, 57
Cross-barred dimity, 33

Damask, 75–76
toweling, 67
Darning cotton, 109
Darning stockings, 109–110
Denim, 41

Design, selection of proper, 126–127
Dimity, 10–12
Dotted Swiss, 53–54
Double-hemstitching, 69
Double-thread sewing-machine, 37
Dress, Commencement, 130
  the becoming, 126–128
  the wash, 120–144
Dress linens, 77
Dry-cleansing, 113
Dyeing, 20, 49–50
  silk, 64
  wool, 85

Embroidery, flouncings, 93
  how to join, 100
  on underwear, 90–93
Emery-bag, 3, 6
Entre deux insertion, 91
Ether, 112

Feather-stitching, 24
Felting wool, 80
Fibers, 15
  cotton, 140, 141
  flax, 140, 141
  silk, 140, 141
  wool, 140, 141
Filet lace, 45
Flannel, 89
Flannelette, 41
Flax, 70–74
  fibers, 140, 141
Flaxseed, 70
Fleece, 80
Flocks, in wool yarns, 81
Floss, cotton, 16
Flouncings, 93
French chalk, 112
French gingham, 18
French seam, 39
Fruit, stains, 112
Fuller's earth, 112

Gasoline, 112
Gathering, 13–14
  stitch, 13–14
Gibbs, James A. E., inventor of the one-thread sewing-machine, 36
Gifts, making of simple, 144–147
Gingham, 11–12, 18–21
Girls, clothing suitable for, 127, 129–131
Glass toweling, 67
Grass stains, 112
Grease stains, 112
Guest towels, 68
Gun cotton, 22

Hackling flax, 74
Hair, arrangement of, 131
Hair-ribbons, 127–128
Handkerchief linen, 76
Hand-sewing, 36
Hats, care of, 108
  selection of, 127
Health, proper clothing necessary to, 114–116
Hemmed patch, 123–124
Hemstitching, double, 69
Henrietta, 89
Homespun, 88
Hooks and eyes, 108
Household linen, 76
Howe, Elias, inventor of sewing-machine, 36
Huckaback toweling, 67, 75
Hydro-extractor, wool drier, 84

Implements for sewing, 3–9
  use of, 8–9
Ink stains, 112
Insertion, 91–93
Irish lace, 45

Jacquard, Joseph Marie, inventor of silk-loom harness, 64

Javelle water, 111
Jewelry, avoidance of, 131

Kimono nightgown, 34
Kindergarten gingham, 19
Kitchen, dress appropriate for, 130
Knitted stockings, 96–99
  underwear, 96–99

Lace, 43–45
  beading, 47
  edging, 46–48
  insertion, 46–48
  machine-made, Cluny, 45
    filet, 45
    Irish, 45
    torchon, 45
    Valenciennes, 45
Ladies' cloth, 88
Lawn, 12
Linen, 15, 70–77
  cambric, 76
  fabrics, test for cotton in, 143
  fiber, 70, 140, 141
  lawn, 76
  material for wash dress, 121
  money-bag, 145–146
  tape, 56
Lisle-thread stockings, 97
Llama, 80
Lock-stitch sewing-machine, 37
Long cloth, 32
Lonsdale cambric, 33
Loom, cotton, 29
  silk, 64

Machine-sewing, 36
Madras gingham, 19
Materials, for nightgown, 34
  for towels, 67, 68
  for underslip, 81, 82
  for underwear, 32–33
  purchase of, 133–136
Measuring for sewing-apron, 16
Melton, 89
Mercerized cotton, 54
Merino wool, 80
Microscope, fibers under the, 140
  use of the, 23
Mohair, 88
Moiré silk, 64
Money-bag, linen, 145–146
Mungo, in wool, 81
Muslin, 32
  unbleached, 32

Nainsook, embroidery on, 91
Nap, 15
Napkins, 76
Napping wool, 85
Needle, 3, 4–5
  care of, 5
  sizes used in plain sewing, 5
  tape, 57
  use of coarse, 5
Nightgown, 34, 42–43, 46, 48, 51–52, 54, 57–59, 65
Noils, in wool yarns, 81

Oil stains, 112
Organdie, 41
"Organzine," silk warp, 64
Overhanding, 14
Overhand patch, 125
Oxalic acid, 111

Paint stains, 112, 113
Patch, hemmed, 123–124
  overhand, 125
"Pattern-cloth", table linen, 76
Percale, 41
Personal appearance, in work, 5
Picker, cotton machine, 28
Picot, 48
Pin-cushion, 3, 6
Pins, 3, 6
Piqué, 42
Placket, continuous, 95
  in underslip, 94–96

Pocket, for sewing-apron, 31
Pongee, 65
Pressing garments, 107–108
Pure Food Law, 132

Quilt, patchwork, 36

Ready-made garments, 103
  selection of, 134–136
Reeling silk, 61–62
Retting flax, 72
Ribbon, 55–57
Rippling flax, 71
Rubbers, care of, 108
Ruffle, on underslip, 82, 104
Running-stitches, 9–10
Russian crash, 75

"Sampler", 36
Sateen, 42
Satin, 65
Scallops, in embroidery, 91
  on edge of collar, 139
School, dress appropriate for, 130
Scissors, 3, 8
  buttonhole, 4
  how to hold, 8
Scotch gingham, 19
Scouring wool, 84
Scutching flax, 73, 74
Seam, 38–40
Selvedge, 15
Serge, 88
Sewing, care of work, 6
  implements for, 3–9
  position when, 5
  use of coarse thread for, 5
Sewing-apron, 10–11, 30–31, 35
  making the, 16–18, 21, 23–28
  materials for, 10–11, 16
Sewing-basket, 3
  implements for, 3–9
  preferable to bag or box, 3
Sewing-machine, 36–40
Shearing, 80
Shears, 3–4
Sheep, 80
Sheeting, 76
Shoddy, in wool, 81
Shoe laces, 108
Shoes, 115
  care of, 108
Shuttle, 29
Silk, 15
  cloth, 15
    chiffon, 65
    China, 65
    crêpe de Chine, 65
    pongee, 65
    satin, 65
    taffeta, 65
    velvet, 65
  fabric, test for cotton in, 143
    test for "true" or artificial, 143–144
  fibers, 140–141
  looms, 64
  making of, 59–65
  raising, 59–60
  stockings, 97
Silkworms, 60–61
Singer, Isaac M., improves sewing-machine, 36
Single-thread sewing-machine, 37
Sizing, cotton, 29
  too much not desirable, 120
Slender figure, pattern suitable for, 127
Snap fasteners, 108
Solvents for stains, 112
Spinning, 16
Stains in clothing, to remove, 110–113
Starch, 112
Stitches, back, 95
  basting, 9
  blanket, 27, 137–138
  chain, 138
  cross, 77

Stitches — *Continued*
feather, 24–25
gathering, 13–14
hemming, 12–13
machine, double-thread or lock-stitch, 37
overhanding, 14
running, 9–10
single-thread or chain-stitch, 37
Stocking, darning a, 109–110
Stockings, 115
artificial silk, 97
cotton, 97
knitted, 96–99
lisle, 97
silk, 97
woolen, 97
Stout figure, colors suitable for, 121, 122
patterns suitable for, 127
Stove-holders, 146–147
Street coat, choice of, 126
Strength, tests for, 141
Swiss, embroidery on, 91

Table-linen, 75–76
Taffeta, 65
Talcum powder, 112
Tape, cotton and linen, 56
Tape-line, 3, 6, 8
Tape-needle, 57
Tea, stains, 112
Tearing tests, 141
Tests, adulteration, 143
burning, 141
chemical, 143
for textiles, 139–144
for wash-dress material, 120
shrinkage, 142
strength, 141
under microscope, 140
weighting, 142–143
Textile Book, 12, 21, 34, 50, 65, 75, 77, 89, 90, 93
Textiles, tests for, 139–144
Thimble, 3, 7, 9
Thread, 3, 5, 8, 22
Torchon lace, 45
Towel, 67–68
making the, 68–69, 72, 77–79
Toweling, 67–68, 75
"union", 67
"Tram", silk woof, 64
Trimming, selection of, 130
Turkish towel, 68
Tweed, 88

Unbleached muslin, 32
Underclothing, 114–115
Underslip, making the, 81–82, 86–87, 93–96, 100, 103–106, 116–119
Underwear, cotton used for, 32–33
embroidery on, 90–93
knitted, 96–99
laces for, 45
materials for, 97
ribbons for, 55–57
tapes for, 56, 57
washing woolen, 115
Union suits, 99, 114
"Union toweling", 67

Valenciennes lace, 45
Velvet, 65
Voile, insertion, 91

Waistbands, 116
Warp, 15
Wash dress, making the, 128–129, 137–139
materials for, 120–121
planning the, 122–123
selection of, 120–122
Washing, woolen underwear, 115
Weaving, 16
Weaving-card, 30–31

Weighting, cotton cloth, 53
silk, 64
tests for, 142–143
Whitney, Eli, inventor of cotton gin, 23
Wilson, Allan B., improves sewing-machine, 36
Woof, 15
Wool, 15, 80–90
fiber, 80, 140
stockings, 97
tests for cotton in, 143
Woolen cloth, 15
Woolen material, albatross, 89
alpaca, 88
brilliantine, 88
broadcloth, 88
cashmere, 89
challie, 89
cheviot, 88
Woolen material — *Continued*
covert cloth, 89
flannel, 89
Henrietta, 89
homespun, 88
ladies' cloth, 88
melton, 89
mohair, 88
serge, 88
tweed, 88
Woolen underwear, washing, 115
Woolen yarn, 84, 85
Worsted yarn, 84, 85

Yarn, cotton, 29
woolen, 84, 85
worsted, 84, 85
Yolk, oil from wool fiber, 83

Zephyr Gingham, 19

LIBRARY OF CONGRESS
0 014 145 111 A